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ABSTRACT

This handbook is designed to provide information to help teachers keep abreast of changes in word processing and to develop necessary teaching skills. The handbook is divided into two main parts: understanding word processing and teaching word processing skills. In the introduction the part word processing plays in the business scheme of a company is discussed. In part 1, the concept of word processing is examined from the standpoints of origin and history, why it is popular, need for and cost of word processing, and its basic organizational concept. Word processing systems are studied in terms of organizational plans and decision-making procedures (preplanning, and adoption). The operational beginnings and personnel qualifications necessary to the establishment of a word processing center are also analyzed in part 1. Finally, the types of word processing equipment (hardware and software) are explained. In section 2, the elements of input (dictating skills, planning, and determining priorities), output (keyboarding, making corrections, transcription, proofreading and editing, production measurement), and distribution (filing and logging) are described. Many flow charts, sample forms, and figures illustrate the material. Most chapters also contain glossaries and bibliographies. (Author/CT)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC) AND USERS OF THE ERIC SYSTEM."

A HANDBOOK FOR BUSINESS TEACHERS

Division of Program Services,
Vocational Education
Department of Education
Commonwealth of Virginia
Richmond, Va. 23216
September 1978

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FOREWORD

Business and office occupations presently represent one of the largest areas of employment and continued growth is projected for the next decade. To streamline office communications, word-processing systems have been used extensively and have gained wide acceptance within the past decade.

This handbook is designed to provide information to help teachers keep abreast of changes in word processing and to develop necessary teaching skills. The teaching suggestions can be implemented with or without specialized equipment.

All teachers are urged to exercise their creative efforts to adapt and expand these guidelines to serve the needs of students.

W. E. Campbell, Superintendent of Public Instruction

Melvin H. Garner, Administrative Director of Vocational Education

ACKNOWLEDGEMENTS

The staff of the Business Education Service has considered the effect of word processing on office occupations for more than six years. During this time we have explored several approaches to implementing word processing into the curriculum. Teacher educators, local supervisors, and business teachers made contributions to the initial attempts.

More recently the initial manuscript for this handbook was developed in a workshop conducted at Virginia Polytechnic Institute and State University under the leadership of Dr. Jeffrey R. Stewart, Jr. This handbook provides teachers with technical information on word processing as well as teaching suggestions.

Recognition is given to business educators who gave their time and talents in making contributions to this handbook.

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Special acknowledgement is made for the leadership, direction, and contributions made by Dr. Jeffrey R. Stewart, Jr., as he assumed responsibilities for coordinating and editing this publication.

Carl E. Jorgensen
State Supervisor
Business Education Service

INTRODUCTION

The relatively new and rapidly growing field of word processing is of vital interest to the business teacher. This handbook has been compiled in order to provide basic information and sources of information for the business teacher who wishes to begin integrating word processing concepts into the curriculum.

Because of the rapid changes that are taking place in both word processing hardware and systems, however, one should be alert to new advances as they are introduced by manufacturers and in the literature so that the most up-to-date information, skills, and ideas can be made available to business students. It is recommended that each business department develop a liaison with at least one major word processing equipment distributor and that subscriptions to relevant materials be obtained to supplement this handbook. Otherwise, the material in this handbook will soon become out of date.

This handbook is designed to be of use to business departments which have word processing equipment as well as those which have no equipment at all. For example, information about the historical development of word processing, organizational patterns, word processing systems, and types of equipment available should be of value to all prospective office employees. Hands-on experience, though desirable, is not mandatory for these topics. Further, certain word processing skills can be developed without the use of specialized equipment. Examples are dictating skills, priority setting, proofreading and editing, and distribution. Specific machine skills can be simulated, and suggestions for such practice appear in these pages.

It is anticipated that this handbook will serve as a general guide which will enable every business education program to develop objectives, materials, and evaluation devices so that every business graduate will be familiar with word processing concepts and possess selected word processing skills.

Jeffrey R. Stewart, Jr., Editor
Virginia Polytechnic Institute
and State University
Blacksburg, Virginia

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PART I
UNDERSTANDING WORD PROCESSING

INTRODUCTION TO WORD PROCESSING

In order for business educators to develop and implement word processing into the curriculum, they must have a definitive and conceptual statement of what word processing is.

The term word processing was coined by IBM to describe the concept of the systematic utilization of people, procedures, and equipment to facilitate the transformation of ideas into printed communication. The 1975 NBEA Yearbook defines word processing systems as: "The combination of specific procedures, equipment, methods, and people designed to accomplish transcription of written, verbal, or recorded ideas into typewritten or printed form."

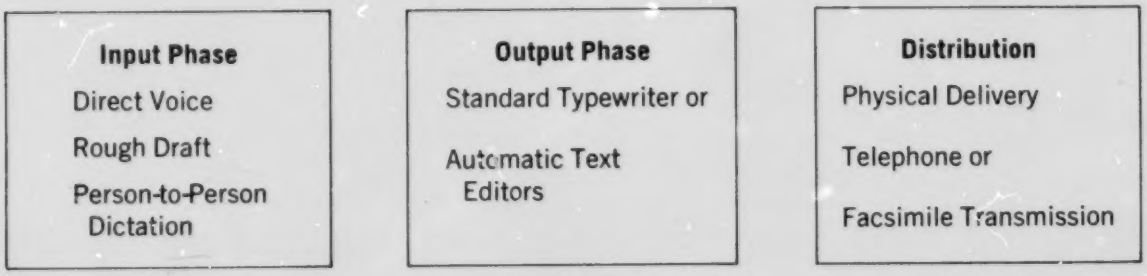
Word processing then can be thought of as a process or system rather than one specific or individual act or procedure. The most significant objective is to take people's thoughts and ideas and put them into printed communication in the fastest, most accurate way possible. But speed and accuracy are not the only criteria. The original impetus to word processing was the real concern of economy. Businesses were calling for more economical ways of preparing and handling correspondence, documents, and in general the everyday paperwork involved in the modern office. The most recent definition of word processing includes (in addition to the capturing of ideas and subsequent printed output) the process of distributing the output to the final user. To sum up, word processing is industry's answer to the quest for increasing productivity while holding a lid on clerical and secretarial costs (see figure 1).

Phases of Word Processing

Word processing can be divided into three distinct and separate phases:

1. The input phase
2. The output phase
3. The distribution phase

In order to clarify this it may be helpful to consider the following illustration:



Input word processing is any person or equipment that has the function of transmitting the originator's thoughts to someone who will prepare a written document of these thoughts and ideas. Examples of this would be dictating machines and the stenographer.

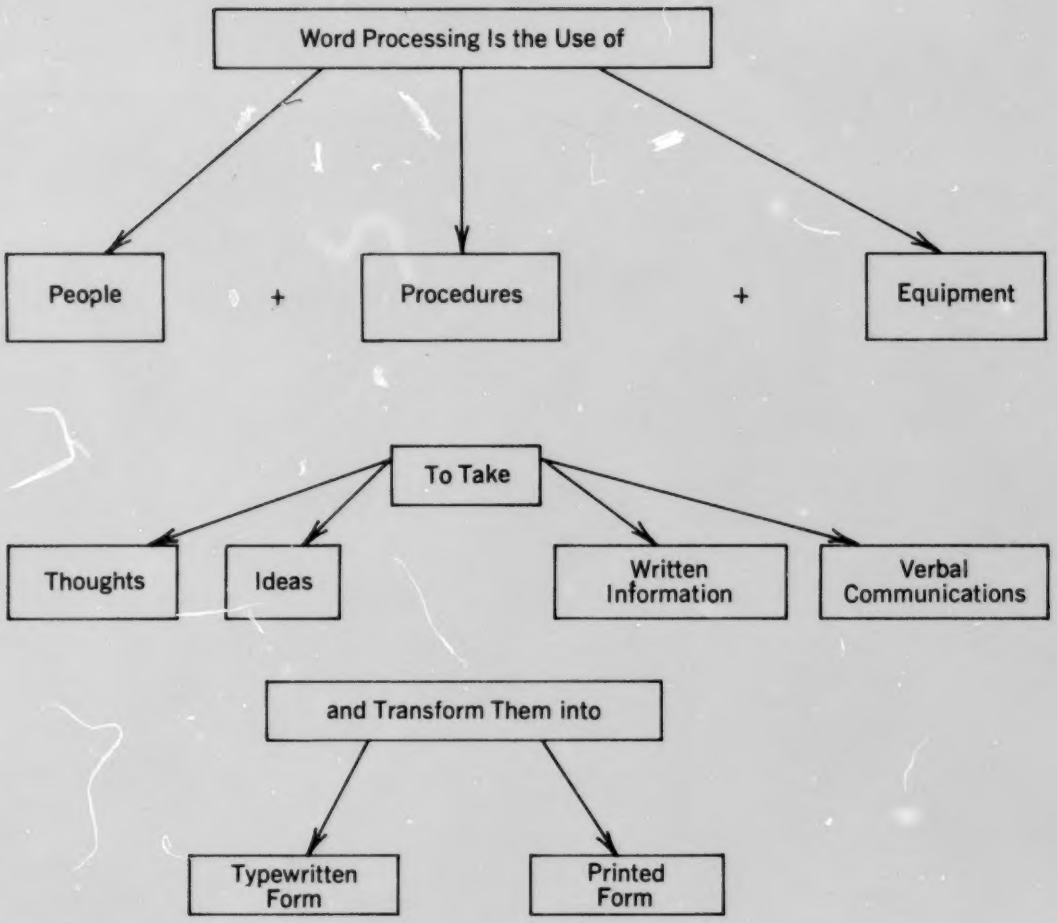
Output word processing describes the actual preparation of documents, along with reproducing and duplicating them.

Distribution of word processing is the process of delivering documents to the final user or over a high speed transmission device that produces hard copy (see figure 2).

Word Processing for Different Office Systems

Word processing functions take many forms. Many word processing centers are uniquely designed to meet each company's individual needs and requirements. Word processing equipment has the qualities which make it adaptable to varying business environments.

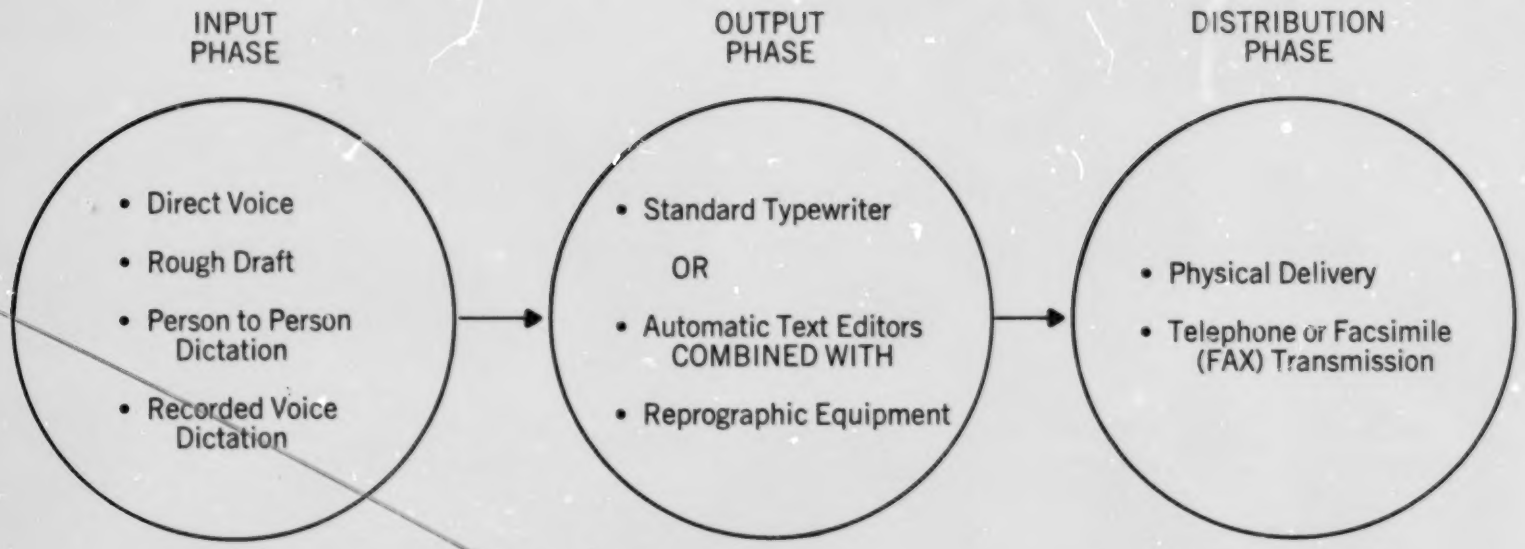
One of the largest users of word processing


Word Processing Is the Use of
People
+
Procedures
+
Equipment
To Take
Thoughts
Ideas
Written Information
Verbal Communications
and Transform Them into
Typewritten Form
Printed Form

(Figure 1)

THREE PHASES OF WORD PROCESSING

(Figure 2)



equipment is the federal government. The U.S. Army, for example, maintains eight different word processing center installations in the Pentagon alone. Naval shipyards utilize word processing centers to prepare information manuals.

Law offices find word processing centers invaluable in preparing leases, contracts, and briefs. Many portions of these documents are repetitive in nature, allowing law office word processing centers to store whole paragraphs of standard legal terminology in the automatic text editing equipment memory. Only the varying data need be typed in when preparing leases, contracts, and agreements.

A major airline uses Dictaphone Thought Tanks and word processing equipment to process claims, vacation and tour correspondence, and customer relations. These thought tanks allow for remote dictation from any of the company's field offices directly to the word processing center. A major midwestern bank uses the "touch telephone" remote dictation system which enables any of its 350 employees to dictate via touch telephone code numbers directly to the word processing center 24 hours a day from anywhere in the country. Another midwestern bank depends upon word processing equipment to prepare and maintain its computer program documentation.

Many companies are now using word processing equipment and dictation equipment to receive and process orders from their customers.

Advertising agencies are large users of this equipment simply because its major product deals with ideas and words.

A book processing center, which processes library acquisitions for three counties in Georgia, uses word processing equipment to print and process library catalog cards and inventories.

These are some of the many ways automatic text-editing and dictation equipment is employed by industry to process words and ideas. Equipment is now available to process words and set type automatically, ready for in-plant printshop facilities, at a considerable savings over outside commercial sources. Major word processing equipment manufacturers have recently added a communicating typewriter and data converter which automatically transforms information into computer compatible magnetic tape.

Optical character recognition (OCR) page scanning equipment is being utilized to read standard typewriter font and electrically record the information from a typewritten page onto a recording medium in a language which can be read by word processing equipment.

Advancement in word processing technology is rapidly escalating to meet the ever widening demands of industry and commerce.

How Word Processing Will Affect Business Education

Because of the explosion in word processing technology, the role of future secretaries and office personnel will probably become highly specialized. This should result in a greater employer emphasis on higher standards for quality and quantity of work. There will be greater emphasis given to the measurement of office worker efficiency. This will be true both in terms of quality measurement as well as quantity measurement. As was stated previously, the impetus for the word processing movement was the critical concern of business in effecting greater cost and efficiency savings. This was the reason for creating word processing centers, where the clerical staff specializes work functions. Quality and efficiency, and thus cost control, need to improve.

This specialization, however, creates a problem in regard to human relations, employee interaction, and decreasing positive motivation, which points to the need for business educators to prepare tomorrow's office worker to:

1. Understand that this will be a fact of life, and at the same time
2. Give them training and instruction in coping with these problems.

The New Emphasis

What then, is needed to equip students to function in the automated office of the future? Teachers will still need to continue to teach typing and keyboarding techniques. Many of the concepts and skills now taught in typing programs will become obsolete. Automatic text-editing equipment developments call for less stress on correction techniques as presently taught. Basic dictation and transcription skills still need to be taught, but emphasis should be machine oriented. It goes without saying that the simple basics of speaking, writing, and reading are necessary for the word processing center, just as in the past. General business and economic concepts will be needed. Greater emphasis will be needed in language skills and in the area of proofreading and composing. This is true in both the administrative and correspondence functions of modern word processing installations. Typing instruction is seen as reflecting four different phases: keyboarding techniques are still uppermost, in addition teachers must offer instruction

in basic business applications, more measurement-oriented production skill must be provided, and abilities of incorporating typing applications into other related functions is emphasized. Teaching for just simple job entry skill is no longer justifiable for future secretaries due to greater emphasis on upward mobility and personnel development programs. The key is to teach flexibility.

The Effect on Records Management and Reprographics

The information and records management area is also undergoing a revolution of its own. Automated methods of storing, filing, and data retrieval will require a change of emphasis in job preparation. The emphasis from printed hard copy storage to that of microfilm, microfiche, ultrafiche, and display terminals will call for radical change in present curriculum design.

The word processing revolution will have a marked influence on methods of teaching reprographics and methods of reproducing and duplicating words and data. Electronic photocomposition and automatic typesetting devices are becoming more sophisticated and specialized. Here again, specialized functions and job roles are evident necessitating careful curriculum consideration.

Career Paths

Office careers and career paths as we now know them are becoming obsolete. Future office workers will embark upon totally different career paths and choices. Much of the communications of modern offices will utilize electronic and computerized devices, creating a need for instruction in these sophisticated concepts.

The Secretary's New Role

The new secretarial functions will be divided into two categories.

The correspondence secretary who performs typing, editing, transcribing, and proofreading functions, and

The administrative secretary who performs most of the non-typing functions such as research, filing, telephoning, and scheduling.

Present instructional tracks will need revisions to reflect this trend toward specialization. Students will be able to decide whether they are more inclined toward working with equipment. If so, they may opt to acquire skills needed for working in the word processing center itself. Or, if they are inclined to more personal interaction characteristic of research, telephoning, and filing, they may elect the administrative secretarial track. Secretarial and clerical programs will have to be revised to meet this need, keeping in mind, however, that both are closely interrelated.

The Intangibles

Office simulations are perhaps the most effective means we will have of creating situations to develop word processing skills and abilities. Here it is possible to teach the intangibles—getting along and working with others, accepting and giving criticism, working under tension and pressure, making spontaneous decisions, making priority choices, and understanding the flow of work. Skills are not enough. Attitudes will be of prime importance for future word processors. Arlene Johnson states that "word processing is a 'people' program first, and then procedures and equipment."[1] This people concept should be continuously integrated into the curriculum.

Summary

It is evident from the above that secretarial and clerical roles in a changing technology will necessitate a new approach to teaching office skills and competencies. Future secretaries will not enjoy the one-to-one relationship with their superiors they have traditionally had in the past. Secretarial functions will become more teamwork oriented.

Business educators must be cognizant of these changing roles and set their instructional sails in this direction.

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[1] Arlene Johnson, "Word Processing: Your Curriculum Is Showing," *Business Education World*, March 1976, p. 8.

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THE WORD PROCESSING CONCEPT

Origin and History of Word Processing

Origin

The automatic typewriter that came into being in the 1930's was driven by a system similar to the one used in player pianos. Form letters were produced on cylinders, but there was one disadvantage—errors were virtually impossible to correct on the paper cylinders. These machines produced by the American Automatic Typewriter Company were relatively slow, cumbersome, and difficult to operate.

Since the 1950's, a newer version of the automatic typewriter has come into being. Using a standard typewriter as a base unit, this automatic typewriter produced form letters by stopping to allow the typist to insert date, address, and greeting. This automatic typewriter was used predominantly by service oriented companies—insurance companies, banks, law firms, and administrative governmental agencies—all of whom produced many form letters.

History

In the 1960's and 1970's, several new word processing systems became available. Some of these include the IBM Magnetic Tape Selectric Composer, the IBM Magnetic Card Selectric Typewriter, and the Lexitron Videotype.

The Magnetic Tape/Selectric Typewriter (MT/ST) was introduced to the public in 1964 and with it the inception of the term "word processing." The MT/ST was first produced by IBM's Germany Division where it was called *textverarbeitung*. The idea was to channel all dictation to a centralized department, thus allowing more time to handle administrative duties. The MT/ST had information storage, retrieval, and high-speed printout at 150-180 words per minute.

The MT/ST was not an instant selling success when it was introduced in the United States in 1965 because of its cost and difficulty to use.

Why Word Processing Caught On

Strategy

In 1967 and 1968 IBM gradually began building sales volume for the MT/ST by applying the same ideas used in Germany's division. IBM suggested reorganizing office procedures so that only typing specialists would operate the word processing machines in a separate department. This worked and was called "power typing." Businesses began to report that they were getting their correspondence out faster with fewer errors.

Reasons for Growth

Some specific reasons given for the increased acceptance of word processing are:

1. *Technology has become more advanced.* Photocomposition capability is now becoming a part of word processing equipment. Some systems have add-on features so that new innovations can be added to the base unit.

2. *Cost of labor has increased.* Since the advent of word processing, salaries for secretaries have increased two to three times. In the traditional system, one business estimated private secretaries were idle 30 percent of the time due to business trips by their bosses. Private secretaries now work on a one-to-one basis for relatively fewer executives as the business office is being organized around the word processing center.

3. *Equipment has decreased in cost.* Most equipment has a high trade-in value on new models. Some have add-on options when they are invented. Panels that can be replaced without removal of equipment from the office saves loss of time due to breakdown.

4. *More and larger businesses can afford to have word processing equipment.* Stan Mintz Associates, Inc., an agency of the General American Insurance Company, located in Madison, Wisconsin, reports that calculations done by the communicating typewriter/computer system now can be done in 1/100 of the time formerly spent and the equipment has been a major reason for the growth of the company.

5. *More and more information has become available.* Word processing supervisors have formed user groups, attended conferences and trade shows, and subscribed to new publications. More dealerships have opened, and word processing centers have become increasingly popular with businesses.

Need for and Cost of Word Processing

Eighty-five percent of the word processors report a savings according to DataPro, October, 1974.[1]

One of the reasons given is that effective production is possible for the average typist, and time is shortened for the expert typist. Another is that an average typist produces 50,000 lines per year on an electric typewriter while on an automated typing system 150,000 lines or more can be produced.

According to this report, one secretary with automated equipment plus a secretary to handle administrative duties would equal three secretaries. First year savings would amount to $1,000 and subsequent years $5,000, but this is only an average and results vary. The cost of a letter dictated to a secretary has been constantly rising in the 70's.

COST OF A LETTER BY SECRETARY

(150 to 175 word letter)

1971	$3.19
1974	3.41
1975	3.79

[1] "Automated Typing/Text Editing Systems," *DataPro Research Corporation*, October, 1974, pp. 104-106.

Word processing machines usually cost ten times as much as a typewriter. Automatic typewriters increase productivity more for form letters and mailing lists than for revision typing. However, it is estimated that with heavy revision typing of 20-25%, productivity is not increased with word processing equipment.

COMPARISON OF COSTS

Length of Document	*Traditional Secretary (Dictation to Secretary)*	*Word Processing (Word Processing and Machine Dictation)*
250 Words	$8.23	$4.30
150 Words	2.64	1.22

Some costs and benefits of an automatic typewriter can be figured and some cannot be. An automated typewriter needs to be used only 3.25 hours per day for revision to break even. If a regular typewriter is used five hours per day, this is the break even point for going to an automatic typewriter. Purchase or rental cost of word processing equipment can be easily calculated.

Basic Organizational Concept

Automated Typing Pools

In a modern office of the past decade, an executive who had a private secretary had acquired a status symbol. The secretary was responsible for transcription, answering the telephone, and keeping the boss's itinerary. The secretary also did personal errands for the executive, and while the executive was away on a business trip, the work load was usually very light. Thus, all of the private secretary's role was not necessarily performed for the benefit of the company.

With the advent of magnetic media for automated typing systems in the 1960's, times changed. Systems up to this time had the capability only of storing information. Magnetic media permitted typists to correct errors, do revision typing without retyping the entire document, and to produce form letters or repetitive items automatically.

At first these new magnetic media typewriters replaced electric typewriters and were used in a typewriter pool. Fewer typists were required to operate them, but each machine cost much more than an electric typewriter. Some systems needed to be devised whereby production levels could become higher with fewer employees in order to defray the cost of these machines. This was the main reason for the development of the word processing organizational concepts discussed here.

Something resembling a typing pool was first set up to increase production. Usually a salesperson from a word processing equipment manufacturer would assist the company in establishing this newly created department. Normally, the manufacturer would suggest centralizing the department with a supervisor in charge of the operation.

Word Processing Center

Later, word processing centers were set up which brought about drastic changes for the secretary and the executives within the organization. Many executives found they no longer went to their private secretaries for correspondence, but to the word processing center where the former secretary could possibly be an executive.

The remaining secretaries would perform ad-

ministrative support duties—non-typing duties. A supervisor would then be appointed to the non-typing secretaries to balance the remaining workload evenly among the administrative secretaries. These secretaries would be assigned to record keeping, filing, switchboard, travel itinerary, and all other non-typing duties. Thus, the private secretary for each executive would exist no more. Sometimes this proved upsetting to executives and secretaries alike, but it normally proved beneficial after a trial period or as more complex systems were introduced into the organization.

A comparison of the word processing/administrative support organizational structure and a traditional office system is shown in Figure 3 on the following page.

Basic Word Processing System

All text that is to be sent to the word processing center comes from the word originator. See Figure 4, "Basic Word Processing System." The word originator is the individual who writes a letter, memo, or data in longhand, or dictates to a secretary or uses a dictating machine. This text to be processed is called the original input. It is sent to the word processing center by telephone, dictation tape, or by messenger.

In the word processing center the original input is typed and proofread, ready to be sent back to the word originator. The material is typed in the center using one of these:

Regular electric typewriter
Automatic typewriter (repetitive model)
Text-editing machine
Time-shared computer system
CRT editing machine

The text is then returned to the originator for proofreading. If corrections are needed, the input is sent back to the word processing center to be edited and copied. If no corrections are needed, the material is copied by the center.

After the corrections are made and the material is copied, the edited material is sent back to the word originator. When the text has been reviewed and accepted by the word originator and ready to be distributed, it acquires the name output.

The output then is either mailed, filed, hand-delivered, copied, duplicated, or otherwise distributed. This completes the cycle of the basic word processing system.

Secretarial Support System

Observe Figure 5, "Present Word Processing Concept." With the advent of word processing, the principal or executive has delegated some authority to the administrative assistant. The administrative assistant dictates letters for the word processing center, assumes added responsibility, and thus assumes a feeling of greater self-worth.

The administrative secretary's work allows for interruptions. The position assumes all non-typing functions, such as answering the phone, being a receptionist, and filing. Usually the administrative secretary works for more than one principal or executive.

In the word processing center, output is greatly increased. Under the traditional office concept, some secretaries found that a nominal average typing speed was all that could be expected because of many interruptions caused by non-typing duties such as answering the telephone.

Usually the best proofreader, speller, and language skilled secretary becomes the proofreader-editor in the center.

A supervisor is appointed over the correspondence secretary and the proofreading editor. This person has usually been a secretary who is now climbing the ladder to an executive position. This individual's responsibility is for the efficient operation of the word processing center—work priority, decision making, and production analysis.

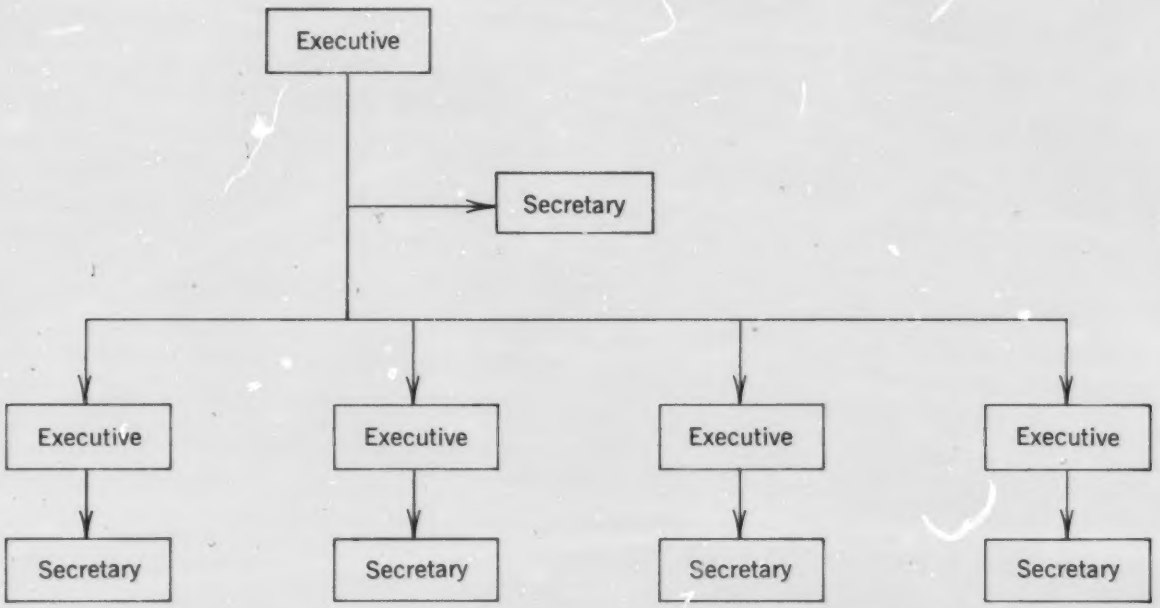
Glossary

Administrative Secretary—An individual in an office who does activities other than typing—handling mail, answering telephone, filing, etc.
Automatic Typewriter—A general term referring to all types of word processing keyboard machines.
Base Unit—The part of automated equipment containing the keyboard.
CRT Editing Machine—Cathode ray tube—a TV like screen where material put into the machine is shown.
Form Letter—A letter used repetitively in correspondence by a company.
Origin—The beginning.
Original Input—Material sent to the word processing center either by longhand, dictation, or machine dictation.
Photo Composition—A type of reproduction of text

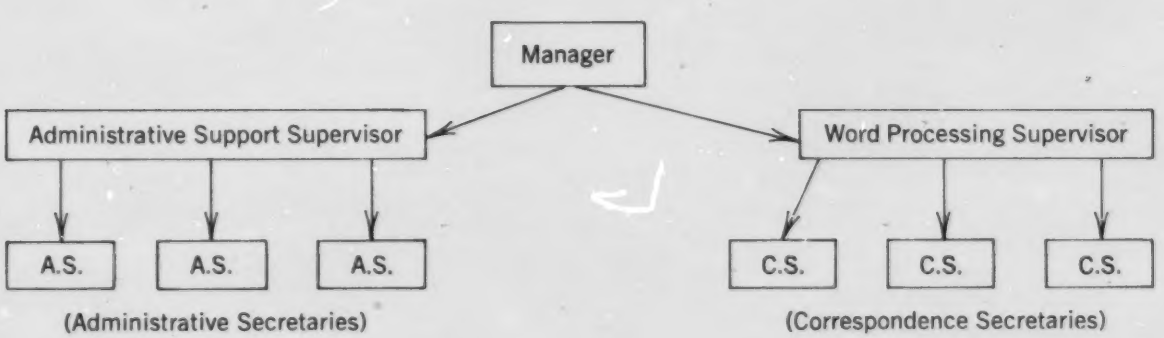
COMPARISON OF OLD AND NEW OFFICE ORGANIZATIONAL CONCEPTS

(Figure 3)

OLD WAY—TRADITIONAL

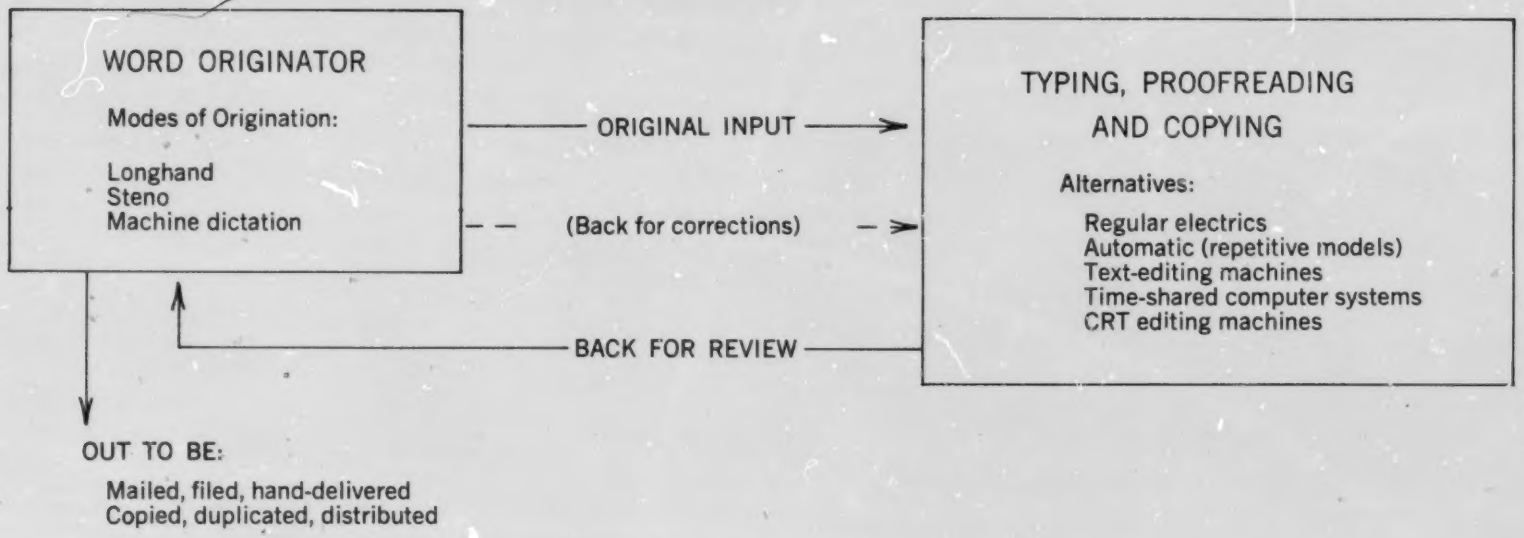


NEW WAY—WORD PROCESSING/ADMINISTRATIVE SUPPORT



BASIC WORD PROCESSING SYSTEM[2]

(Figure 4)



[2] Thomas J. Anderson and William R. Trotter, **Word Processing,** (New York: AMACOM, 1974), p. 10.

PRESENT WORD PROCESSING CONCEPT[3]

(Figure 5)

[3] "Word Processing Curriculum Script," **International Business Machines,** Script 2-1.

material in which it is exposed by photography on light sensitive paper and then developed to become a production master.

Power Typing—Typing that is highly repetitive—such as form letters. Basically, it can refer to any type of word process typing.

Productivity—Amount of output materials produced in a given period of time.

Text-Editing Machine—A word processing typewriter on which corrections, additions or deletions of text can be done without a retyping of the material.

Time-Shared Computer System—A system commercially available to businesses whereby a computer is shared by use of a terminal in each office.

Typing Specialist—Expert typists.

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WORD PROCESSING SYSTEMS

Word processing must be tailored to the needs of the business organization in which it is being implemented. A business organization is a system of interrelated parts, normally given coherence through a common element, usually information. Systems may in themselves be parts of the business organization system. But the systems which are components of the bigger system should show evidence of coherence through logical and rational organization.

Organizational Plans

The transition of word processing as a system into an organizational system affects every level of management and all administrative personnel as well as the secretarial staff. In order to maximize the benefits of word processing, alterations in systems must involve equipment changes, procedure changes, personnel relationship changes, and changes in secretarial functions.

Administrative Relationships and Organizational Charts

Most modern businesses combine people, procedures, and environment together in some basic organizational pattern. The simplest organizational plan provides for a direct line of authority and responsibility from top management to the bottom of the hierarchy. A typical chart for a line form of organization is illustrated in Figure 6.

As many businesses moved toward specialization, the functional form of organization was developed. Supervision, because of specialization, became departmentalized. Under functional organization, the subordinate office employee, however, often has to report to more than one supervisor. A typical chart for a functional organization is illustrated in Figure 7.

A combination of the line and functional forms of organization results in the line and staff organizational plan. Although line and staff organization allows for line authority and responsibility at top-management levels, departmental functional operation is used from middle and supervisory levels downward. At all levels, "staff" serve as assistants and advisors, offering recommendations and performing essential operational functions, usually without any provisions for further delegation of authority or responsibility. Figure 8 illustrates a typical line and staff organizational structure.

The committee organizational form can provide for active participation in the decision-making process. At the same time, though, it tends to slow the process and often leads to a majority decision which may not be in the best interests of the business as a whole.

The most modern variation of the traditional organizational structure is the global or spherical concept. The global idea visualizes top management at the "north pole" with the remaining organizational units radiating around them.

Functions and Systems Analysis

A change in a system which is a part of the greater organizational system involves analysis of the entire system and projections of the impact of the changes on the entire organizational structure. The alternatives which should be considered extend from the traditional boss-secretary (or one-to-one) relationship to total centralization. (The instructor may wish to provide an in-depth study of these possibilities. Figures 9, 10, 11, and 12 can provide a foundation for this study. Additional information can be found in Rosen and Felden's *Word Processing*, pages 57-60, from Prentice-Hall Publishing Company.)

Office Structure

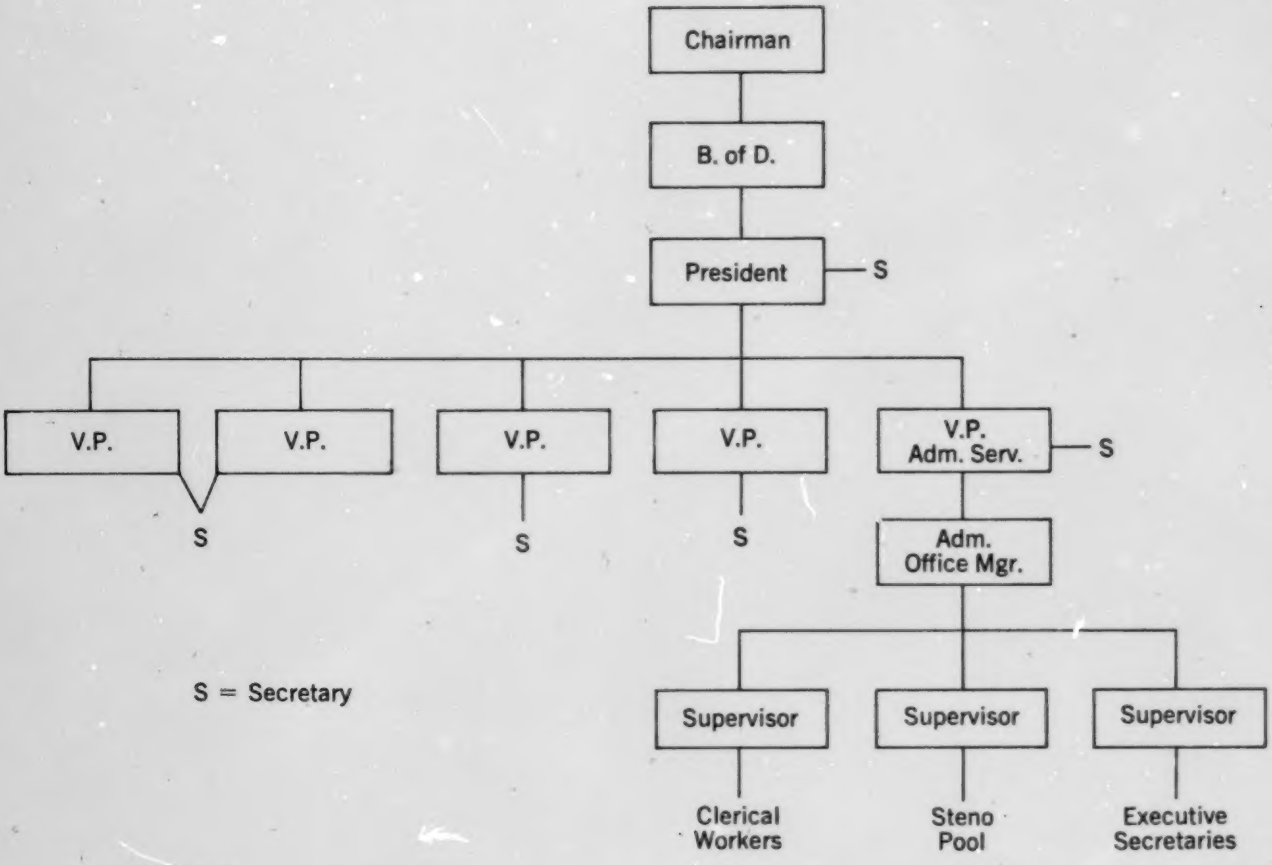
The centralization and division of work organizational plan involves three distinct work-function groups: word originators (principals), correspondence secretaries, and administrative secretaries. These separations of people and their functions are the specialization of word processing.

Types

In most traditional organizational structures, the secretary has had no place other than the place on the organization chart corresponding to that of the boss. With the business system reorganized for word processing, including correspondence secretaries and administrative secretaries, the chart can depict the organization's true structure.

Figure 9, Word Processing Organization, is il-

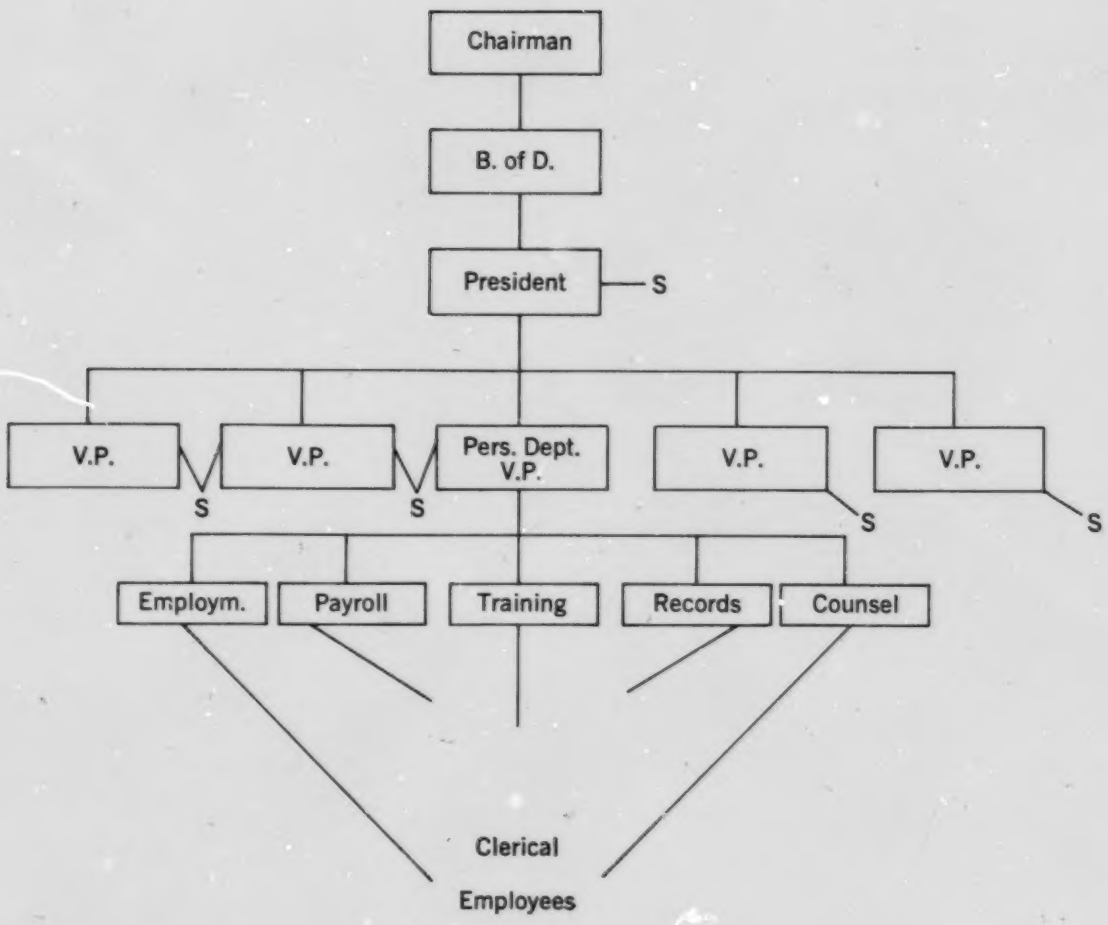
LINE ORGANIZATION



(Figure 6)

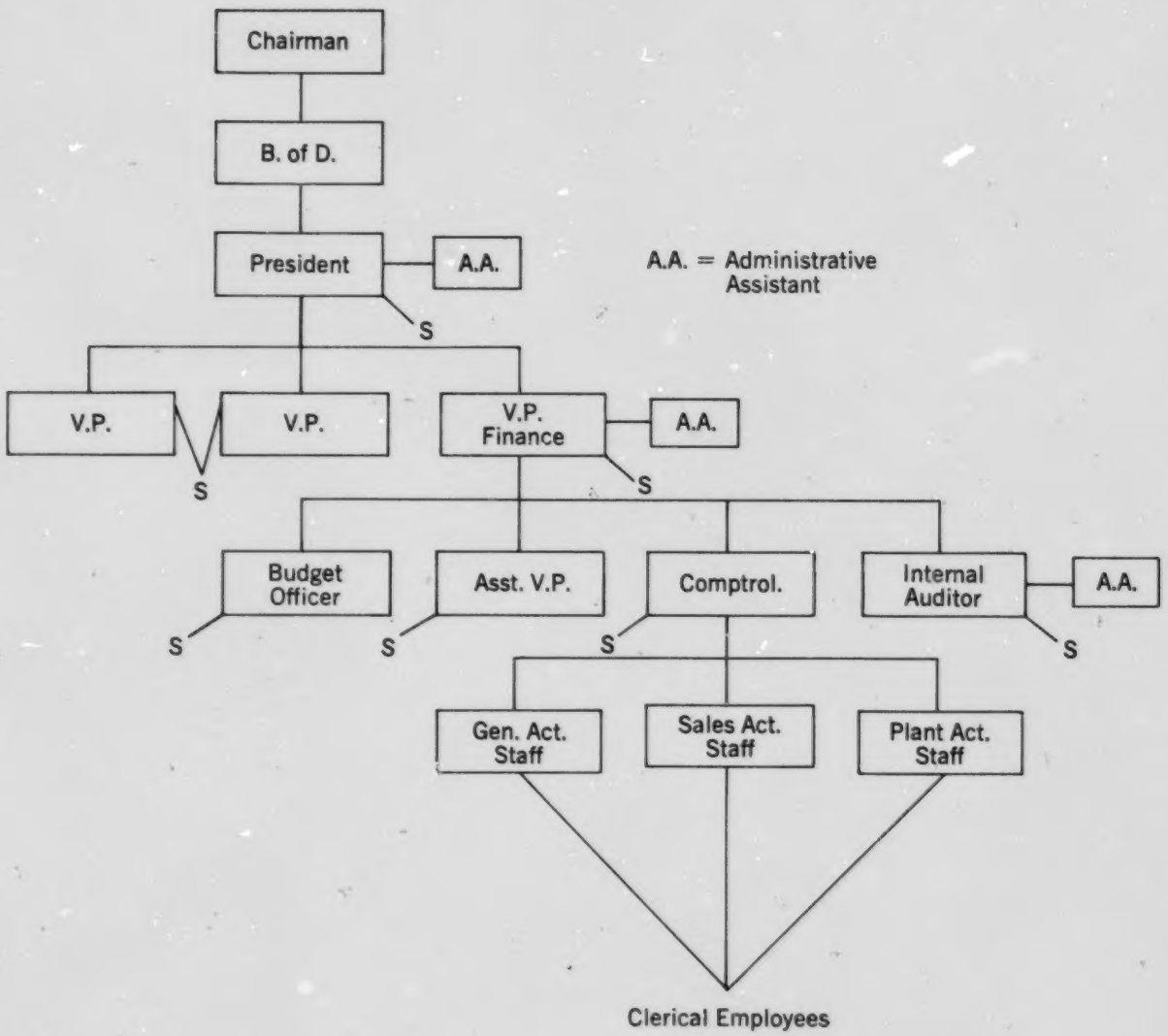
FUNCTIONAL ORGANIZATION

(Figure 7)



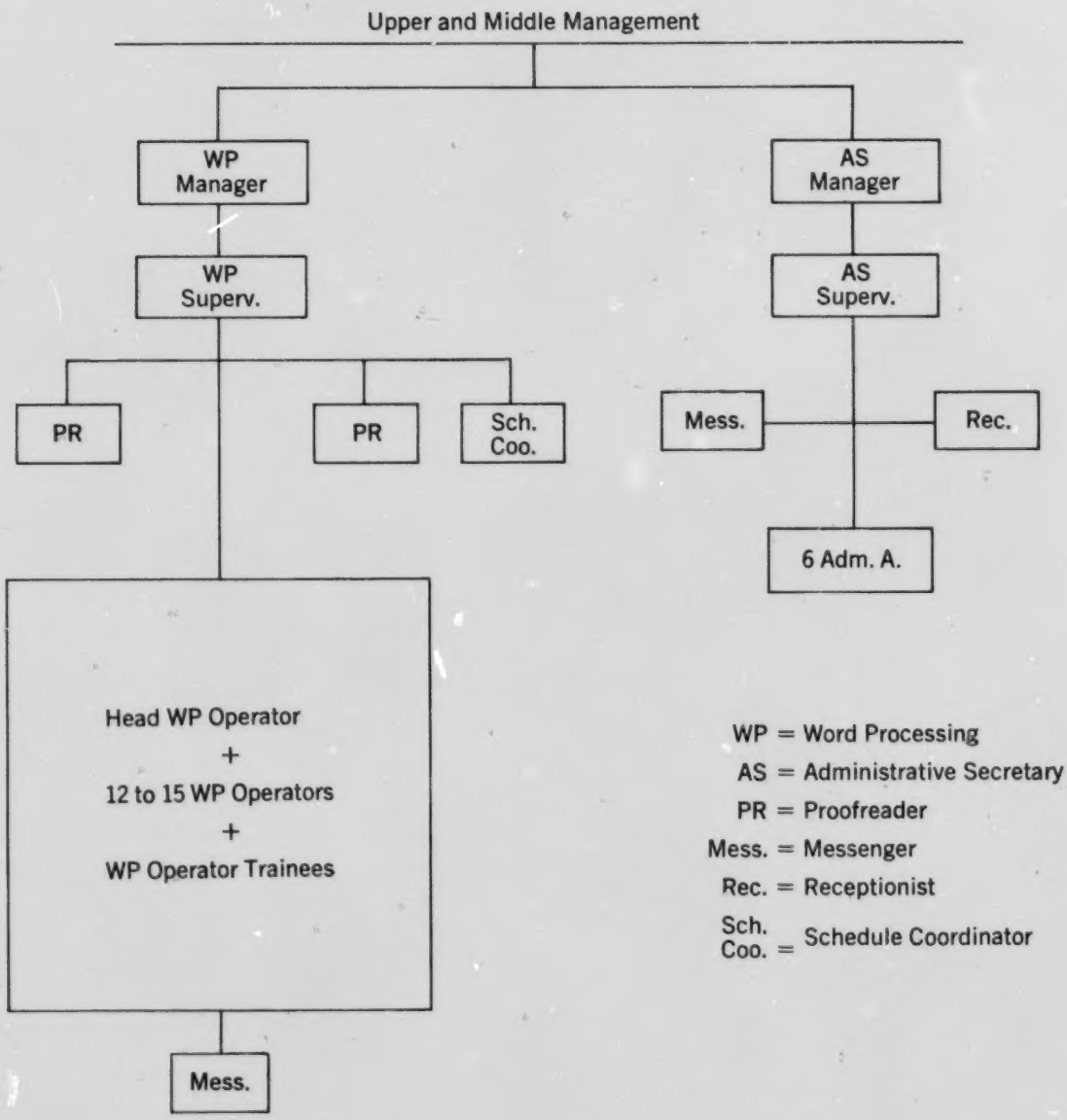
LINE AND STAFF ORGANIZATION

(Figure 8)

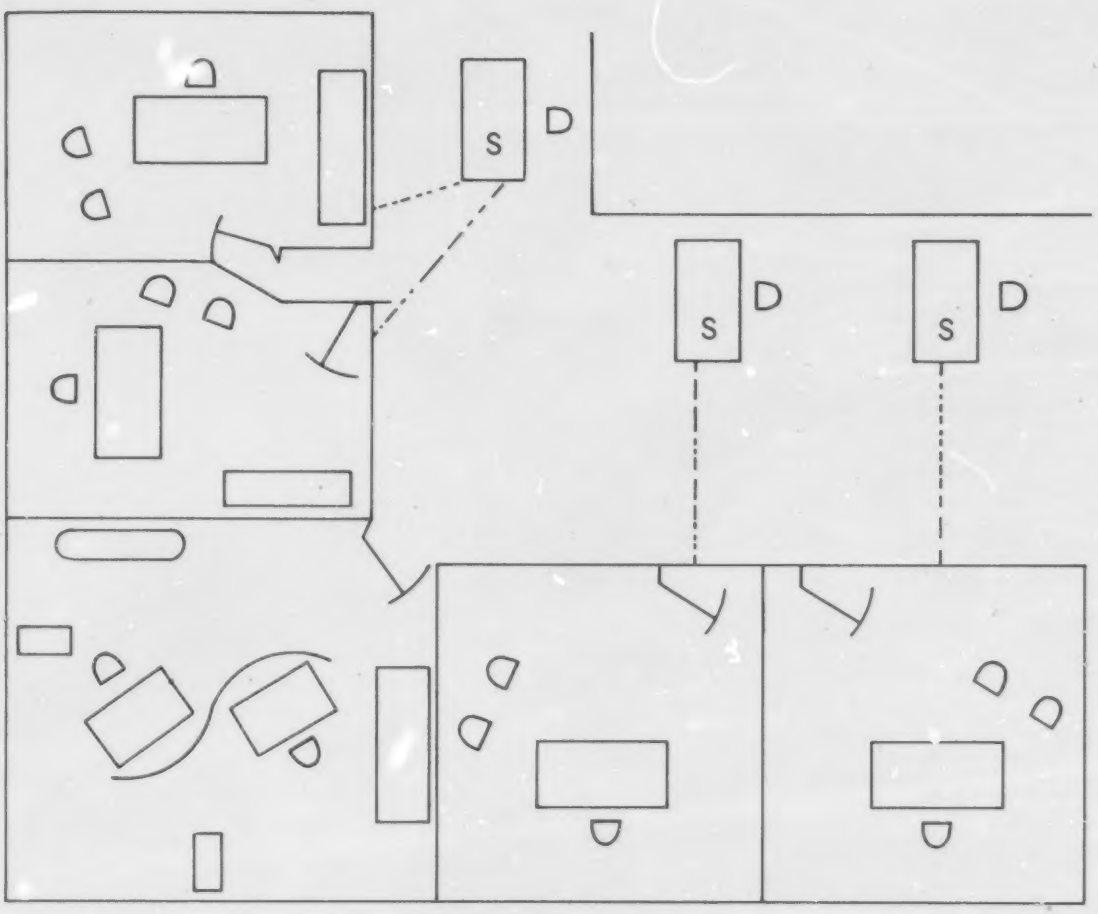


WORD PROCESSING ORGANIZATION

(Figure 9)



WP = Word Processing
AS = Administrative Secretary
PR = Proofreader
Mess. = Messenger
Rec. = Receptionist
Sch. Coo. = Schedule Coordinator



(Figure 10)

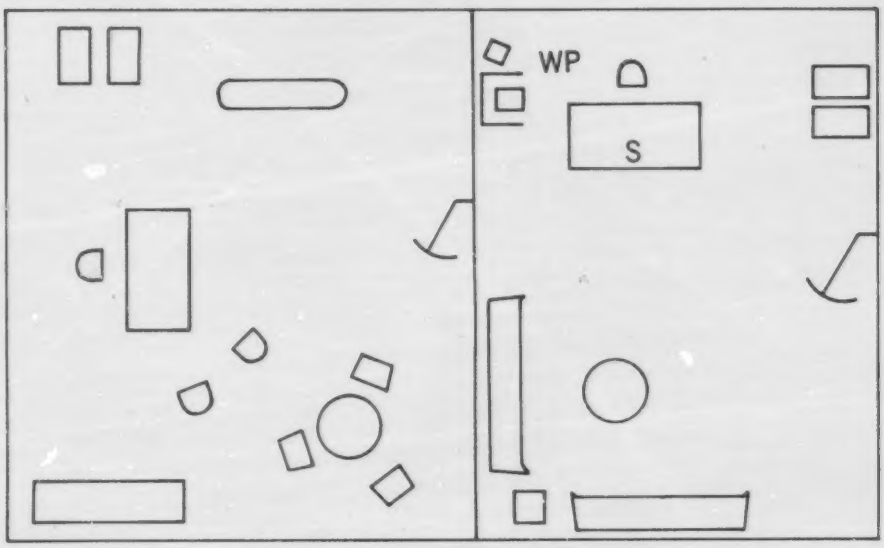
ONE-TO-ONE

RELATIONSHIP

TRADITIONAL OFFICE MODE

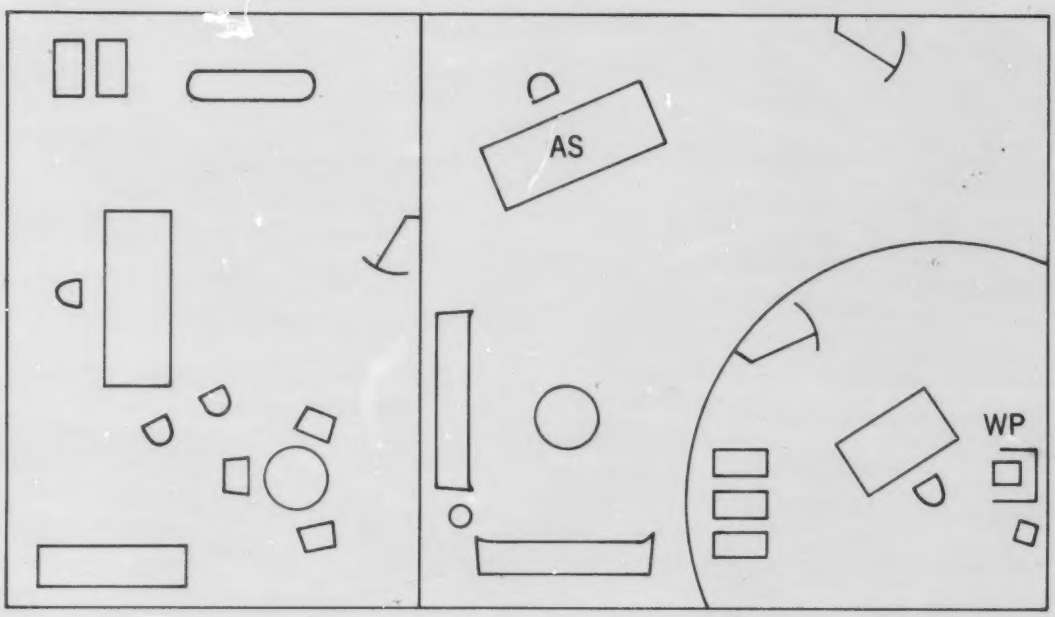
WP TYPING STATION
AUGMENTED MODE

(Figure 11)



MANAGEMENT SUPPORT TEAM
WORK GROUP

(Figure 12)



lustrative of an organizational structure which includes a word processing system.

Work Performance Categories

The traditional secretary has performed both administrative and production tasks. The advantages to these generalist positions are, for the most part, personal and ego-fulfilling, often centering around the "position" the secretary holds because of the boss's position.

A word processing system requires specialization, or the development of expertise in a particular activity. Specialization can provide for personal fulfillment (because the word processor is the "expert") and for organizational benefits as well. And, because word processing combines specialization and centralization, some of the more valuable functions of the generalist can remain, such as face-to-face communication between the principal and the administrative secretary.

Physical Features and Layouts

The traditional office is characterized by the assignment of a secretary to a manager or supervisor, or at the most, to several managers or supervisors. The one-to-one relationship, or traditional office mode, is illustrated in Figure 10.

With word processing, the office structure moves toward almost total centralization. The possibilities range from the word processing typing station or augmented mode to the total organizational integration or centralized mode, as shown in Figures 11 (Word Processing Typing Station), 12 (Management Support Team), and 13 (Word Processing Center).

Decision-Making Procedures, Preplanning, and Adoption

To be truly successful, word processing must be carefully and sensitively tailored and introduced into the organizational system.

Pre-Feasibility Procedures

Planning for a change must begin with learning about word processing. Professional and technical assistance will save time, effort, and money. Visits to other offices with word processing operations will allow the prospective converter to learn from the first hand experience of others.

Since word processing is as much a human experience as a system, the human tendency to resist change must be managed properly to avoid unnecessary problems in the acceptance of the system. Thus, before a feasibility study can begin, support must come from top management, and then the staff must be prepared for both the what and the why of the study. Finally, those people whose work situation will be studied must be prepared. The actual pre-feasibility preparation then, would involve at least four steps:

1. Obtaining familiarity with word processing.
2. Obtaining top management authorization for the study.
3. Preparing the staff for assisting in the study.
4. Briefing the principals and secretaries who will be involved with the study.

Initial Research, Data Collection, and Compilation

The feasibility study can begin with the selection of a survey supervisor who will delineate the survey's scope and aims and create schedules and materials. The survey supervisor will assist top management in making and implementing plans for introduction and briefing of all those involved in the survey. After orientations, the collection of data may involve work sampling, observation of working stations and workers (job analysis), the logging of work being done by secretarial and clerical employees, questionnaires, and document studies. Additionally, personal interviews with the secretaries may be helpful.

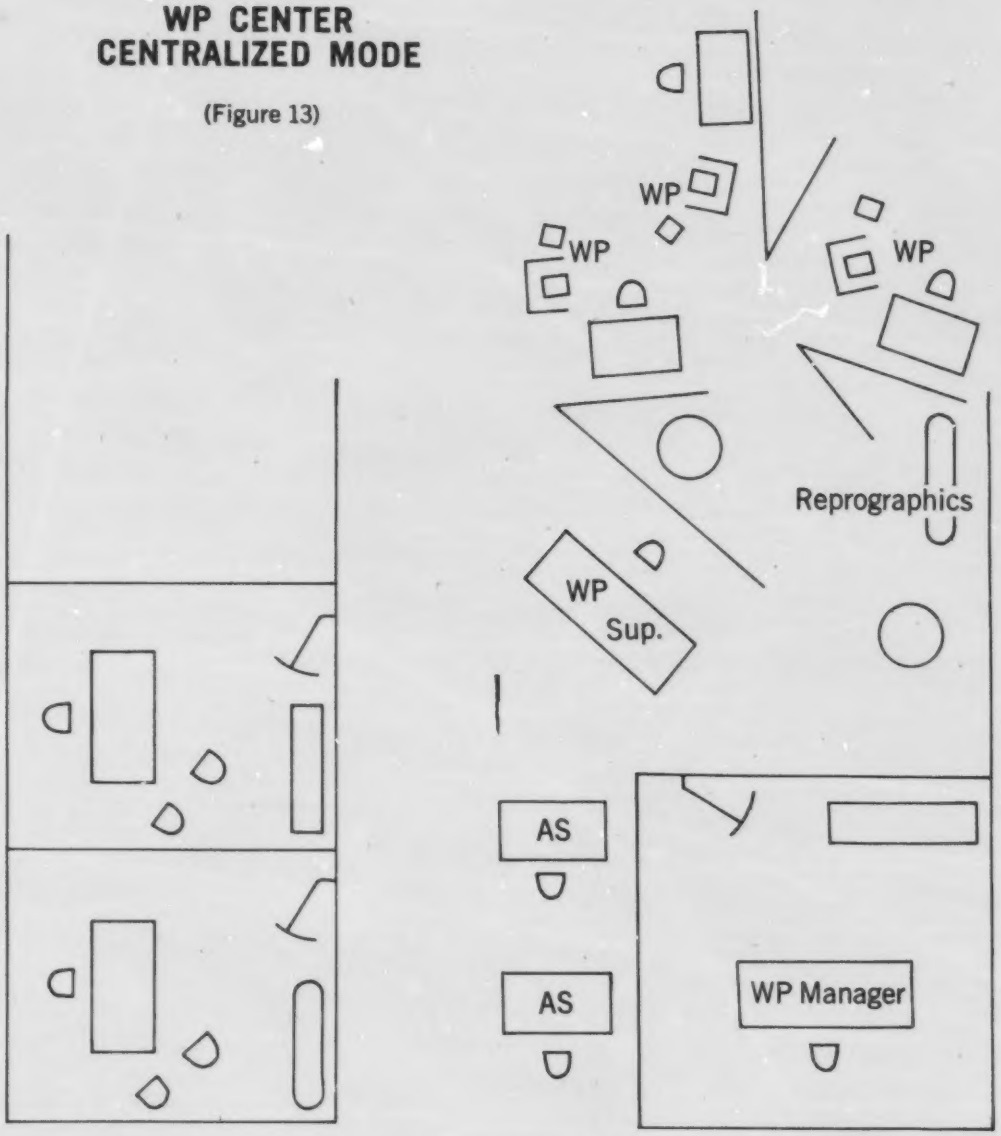
The compilation, analysis, and publication of the data collected can provide the information in manageable, meaningful form so that assumptions, conclusions, and recommendations can be drawn. The information should establish administrative and typing needs; document information input, classifications, and lengths; error rates and typing restarts; repetitive typing occurrences; and frequency and speed of data needs. Of great importance will be the analysis of cost factors, the efficient use of equipment, and the comparisons of cost and productive capabilities if changes are implemented.

Needs Analysis

Since the major purpose of a feasibility study is the determination of the effectiveness of the secretarial function, the analysis of the compiled data should begin on the individual-secretarial level. Then the departmental data can be analyzed, and,

WP CENTER
CENTRALIZED MODE

(Figure 13)



finally, the information for the firm as a whole should be studied.

Word Processing System Selection

The selection of a word processing system to best meet the predetermined needs of the organizational system should begin with the appointment of a study team. Using the information from the feasibility study, the team should consider the possible designs of usable word processing systems and the effects of gradual or full-scale change. (See Figures 11, 12, and 13.) Too much, tried too soon, too often leads to failure; introductory or trial-level procedures with provisions for later expansion can sometimes provide a better chance for success.

The selection of a system should include choosing equipment and facilities which are the core of the system. Changes necessary to facilitate installation should also be given consideration. Staff planning should begin and a hierarchy of positions proposed. Procedures should be outlined and an operations manual compiled. System evaluation proposals which may be included will make management aware that their acceptance of the system selected will not be without control factors.

Recommendations to Management and Management Endorsement

If the word processing system is to be accepted in the organization, the endorsement of top management is essential. The needs and expectations of top management should be given consideration; their objectives should be formally stated and implemented into the systems proposal. If management has been consulted as the word processing program has developed, their acceptance of the recommendations should be assured.

Glossary

Administrative Secretary—An individual in an office who does activities other than typing—handling mail, answering telephone, filing, etc.

Centralization—Having an area designated for the performance of a special type of task.

Correspondence or Word Processing Secretary—A machine-oriented typing specialist who transcribes from dictation equipment.

Generalist—A secretary who performs a variety of duties.

Implementation—Putting the system into operation.

Logging—A process of work flow control where work is recorded as it enters the center and when it is processed.

Mode—A form or pattern.

One-for-one Structure—An office structure where the secretary works for only one or two bosses.

Originator—The creator of ideas for typewritten materials.

Principal—Originator of input.

Restart—To begin typing a job task again.

Specialist—A secretary or clerical employee who performs the same job tasks repetitively.

Systems Approach—The interrelationships of an organized whole.

Typing Pool—An office area designated for centralized production typing.

Word Processor—An information processor who uses a typewriter which records typing onto media or into memory for later playback.

Word Processing Center—An office area designated for centralized production typing by word processing secretaries.

Work Group—A group of secretaries, usually centrally located, performing similar job tasks.

WP—Word processing.

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ESTABLISHING A WORD PROCESSING CENTER

Operational Beginnings

Orientation

Orientation should be comprehensive, systematic, and thorough for all personnel involved. Several weeks up to six months should be allowed for an effective program. Inform all personnel of the purpose to be accomplished with word processing. A brief review of the pre-planning decision studies and a preview of expected results from the system might instill more confidence and generate acceptance toward the proposed changes. Explain fully the duties, responsibilities, and levels of work performance; and where it is possible, seek the ideas and suggestions of the staff and permit present personnel choice of job direction. After a degree of acceptance and understanding have been achieved through the introductory orientation program, the program should concentrate on the more specific aspects of how each position will be affected and the details of utilizing the system.

Finalizing layout and work stations, refinement of procedural manuals and work flow routines, and solidifying job responsibilities should be emphasized. Not to be overlooked in this phase of the orientation are the principals (or originators) on the management side of the word processing organization. Principals must be shown how they will be able to function without having a private secretary, they must be informed regarding the proper way to use the new equipment such as the changes in dictation procedures, and they must be encouraged not to bypass utilization of the system. A written procedure or rule book would be most helpful in this respect, and it might be expanded to include the codes and complete texts of prerecorded material as the system grows.

After Acquiring Equipment

Once the equipment is installed, equipment company representatives may begin operator training. Many companies provide this service free for the first and possibly the second operator, but many charge for additional operators, so some provision should be made for assuming the training function for other operators at a later date. Practice material should include real office jobs to facilitate the understanding of how work will be processed and what crucial factors are involved. Here it should be mentioned that, although equipment companies advertise operator training periods of three to six days, this would by no means imply that maximum proficiency of the equipment might be attained by an operator in that short period of time. The capabilities of the equipment should be explored through practicing a variety of production jobs and the routines involved in editing, revision, final approval, and final output. By being able to practice before being expected to produce real copy, the extreme pressure on a beginning operator may be reduced and prevent any unnecessary early turnover that would still further delay actual word processing production. In this way, the beginning operator has time to adapt former typing skills to the operation of the equipment and the type of jobs that are likely to be assigned.

If an adequate allowance of time for operator prescreening has been scheduled by management, it would seem advantageous to allow all current secretarial personnel to have a period of operator training to provide for three avenues of possibilities: (1) to recheck initial employee choice of job direction, (2) to provide the background for cross training and cross utilization should it be instigated at a later time, and (3) to discover individual talents and skills not readily evidenced beforehand in performing the regular secretarial duties.

Assigning Personnel and Supervision

At this point, the word processing manager should be able to select and assign beginning operation personnel, hire additional personnel as needed, and establish initial channels of supervision. As the system goes into operation, an employee should be aware that management is willing to remain flexible in adjusting these assignments wherever and whenever possible in order to prevent the situation of dead-end decisions, but management must remain rigid enough to permit changes in assignment only in cases that justify adjustment and not be overcome by petty requests after very brief trial times that might keep the new operations in a disorderly state of flux. Authority for supervision should be definite and constant. The channels of supervision should be published and adhered to in all cases, but the beginning supervisory approach might well be one of support of the work flow and consultation. The idea needs to be implanted that the quality and quantity of output promoting the business as a whole is to be strived for by all employees. Thus, the role of supervision

should not be one of task-master and unjustified production goals. As the system is utilized, production standards may be adopted, evolved, and determined as they apply to the work being done in that particular company, but there are no standards that can be applied indiscriminately to all situations. This is one of the facts that require some method of continual evaluation of the performance of the system itself. Given the proper attention and consideration, regular evaluation can locate areas needing improvement and foster a tightening and widening of overall effectiveness.

Workload Considerations

Workload assignments are likely to be unevenly distributed in a new system. Of primary importance in this matter of working out a more equitable distribution of work are the ideas of flexibility and wise and expert supervision. If rigid assignments are made in regard to ratio of secretaries to principals, efforts at redistributing workload may cause friction, whereas a more flexible approach would be accepted more readily. The flexible approach would also be more likely to accommodate the normal peak periods and slower times that are characteristic of a large number of businesses, as well as circumventing normal business problems labeled as interruptions or unavoidable delays.

Another way of distinguishing differences in workload assignments may be that of classifying assignments as confidential work, rush jobs, or material related to particular subjects such as law, engineering, dealing with a foreign language, or utilizing computerized data in contrast to work that is more general in nature. Yet, in many instances, there are distinctions to be made within regular workload material which involve different levels of skill in producing usable copy. These might be classified as general correspondence from either hard copy or transcription, repetitive letter or projects production, special form letter jobs, material coded for composition, revision, and inserts, and composition itself. How these workload considerations are to be handled will be dependent upon the quality of supervision, the volume of work to be produced, and the number of employees available for assignment, but it remains an imperative factor to regard all differences and make equitable performance expectations in order to achieve high productivity with a minimum of friction among employees.

Work Flow and Routing Procedures

Work flow and routing procedures will vary specifically according to many factors involved in the word processing system; namely, the organizational patterns adopted, the equipment installed, the type of work to be produced, the stage of development of the word processing system itself, and the personnel selected to perform the required functions. There is no single or correct word processing application. However, work flow patterns will be discernible and workable if consideration is devoted to analyzing the total environment comprised by all of these varying factors and to the steps of the basic word processing cycle. These steps may be summarized as follows: (1) origination, creation of ideas or paperwork from longhand, shorthand, or machine dictation, (2) production, formating, editing, revising, correcting, and keyboarding the material, (3) reproduction, copying by use of carbon copies, multiple copysets, automatic typewriters, office copier, or duplicating by traditional duplicators or copier/duplicators, (4) storing, traditional file copy, microfilming, computerized storage media, (5) distribution, hard copy delivered to final destination or distributed to designated recipient(s) by means of messenger or delivery system within the company, mail service outside the company, or communication—recorded copy transmitted by some communication device such as the magnetic media typewriter, telecopier, or teletypewriter.

The complexity of work flow patterns may further be realized by noting that, whether type of material is complex and urgent or routine and predictable, whether instructions are clear and concise or somewhat nonspecific, each job brings its own set of handling requirements: quality desired for final output, quantity required for distribution, turnaround time involved, and cost decisions in terms of time, personnel, and supplies as well as final distribution. The organizational patterns adopted will outline who does what throughout each step of the processing cycle. The stage of development of the word processing cycle will determine the overall productivity level, and the type of personnel selected will affect the degree of supervision required to maintain suitable output. However, the greatest determiner of work flow patterns will be the capacity and capabilities of the equipment installed. In a discrete media system—one utilizing a belt, disk, cartridge, or cassette—there is more freedom and ease to be gained in response to priorities and scheduling or rescheduling work because of the ease of locating the incoming input. Also, disks, belts, or cassettes may be readily assigned to another work station. The continuous loop system—utilizing sealed, continuous loops of magnetic tape contained in tanks—is

reputed as being most effective for serving needs on a first-in, first-out basis. But some counterbalancing advantages of the endless loop or continuous loop system are that it does not require the attention of someone to insure available media for incoming dictation. Monitoring panels that report which tanks are busy and how much backlog in each are another advantage. This permits instant control information for setting priorities or rescheduling work. Whatever the work flow variations involved in a particular system, the goal is to meet deadlines accurately and smoothly with the minimum of staff and the least number of periods of uneveness or idleness.

Work Measurement and Control

Methods

Very few production goals have been standardized in the word processing field, although there is considerable attention being devoted to this very important cost factor. There is also some disagreement on the proper approach to measuring work. Some experts believe it is essential to develop universal standards; others do not. Some companies are equating word processing production to assembly-line production as found in manufacturing concerns and devise complicated and expensive systems of measurements such as MTM (methods/time measurement). Some companies develop their own standards entirely from their experience records. However, it is most probable that a majority of companies rely on a mixture and individual blending of their own experience records and some outside information, becoming rather fixed standards only after a few years of experience.

The method of work measurement could be based on single guideline such as total productivity count by line, page, or document, or it could be based on any combination or all of the following criteria: turnaround time; type of information such as statistical, scientific, or long reports; ease of handling the mode of input; activity required on the machine; editing and revision requirements; quality of output; net final output determined by dividing usable copy produced by the time spent producing it, counting time for everything except principal errors over which operators have no control. One way of calculating variable factors is to assign production weights to be applied to productivity count to derive a weighted net productivity score. Advantages and disadvantages might be stated for all methods of measurement, but the wise manager will not be overcome by too extensive and costly computational arrangements causing the loss of sight of the purpose of measurement—that of predicting, planning, and scheduling work and staff efficiently and with a cost-conscious attitude.

Forms

Each company usually develops its own forms for recording production. These should be designed to fit the needs of the routing procedures likely to be used and contain proper space for noting data required for work measurement, scheduling, and cost/savings records and reports. Typical items and categories of information may include identifying information—job number, date, principal name, department, and operator name or number; instructions—date required, number of copies, additional instructions, retention time for recorded material to be kept; production information—type of document, draft, revision, final, time in, time out. If weighted measurements are used, space should be provided to identify the complexity of input, difficulty level of production, and extent of machine activity required to produce expected output.

Reports and Cost/Savings Records

Data for productivity reports may be summarized hourly, daily, weekly, or even monthly. The information gained from these reports should be utilized in locating low individual performance and investigating possible steps to encourage improvement. Performance records may also be used as an aid in checking the effectiveness of the use of the word processing system by principals. Cost chargebacks may be allocated to individual departments for cost-control studies. Savings comparisons may be made to assist in further planning for improvements, expansion of the word processing application, and for promotion and salary increases for high performance.

Review and Evaluation

Problem Solution

Some characteristic problem situations are outlined below and followed by a suggested solution.

Input Problems. The use of longhand input is the slowest method, so the use of machine dictation should be encouraged. The principal should not dictate addresses that are already prerecorded and on file. All secretaries may not be assigned to long projects at one time leaving no provision for rush items or short-order work. At least one secretary must remain available for current work.

The volume of input may be excessive for the number of operators. Consider overtime, night shifts, or OCR (Optical Character Recognition) or VOR (Voice Operated Relay) input media. If trained, cross utilization of administrative support personnel might be arranged.

Output Delays. Principals must be informed on using the system proficiently; for example, identifying prerecorded paragraphs to be inserted and dictating only variable information. Principals must give operators complete instructions and spell out unusual names, addresses, and terms. Cross utilization of administrative support personnel may be used for filling in for absences. For heavy after-hours dictation, operators might try the split-keyboarding techniques, where one operator concentrates on producing rough draft material while another operator concentrates on playback managing more than one machine at a time. If a principal excessively uses rush priorities causing interruptions in work in progress, have the supervisor discuss the matter with the principal and reschedule the work. Poor dictation or vague typing instructions cause slower production. Prepare a "goof sheet" to remind the principal to be more explicit.

Distribution Errors. Poor selection of copy techniques increases the time spent on the job. Make a recommendation to the principal of a more efficient method or a less expensive process to be used in subsequent jobs of a similar nature. Failure to establish rigid schedules for the delivery system delays distribution. The supervisor should work with the responsible individuals in deciding upon the most satisfactory plan for all work stations.

Future Expansion

Expansion should not be undertaken without justification. Careful consideration should be given to each of these four areas before deciding upon a program of expansion: equipment, personnel, systems and procedures, and costs. A detailed assessment should be made regarding the effectiveness of the present system and whether it is serving its proposed purpose. An analysis of unfulfilled needs should be evaluated against the expectations to be gained from the proposed expansion. Each expansion should be supported by identifiable gains in cost reduction, greater productivity, or facility in distribution.

As new combinations of equipment capabilities continue to be developed and placed on the market, careful planning similar to the preplanning required for the introduction of word processing should be undertaken before decisions are made concerning expansion investments. For initially small installations, some equipment companies are capitalizing on the idea of the add-on feature as the needs of a company expand. For larger installations, tied in with overall growth itself, there may be a need for expanding into some form of integrated shared-logic or interconnected time-sharing system.

Personnel

Job Descriptions

A job description is a summary of the responsibilities and duties designated for a specific job title. Some authorities think that confusion is perpetuated because of the variation of job titles in word processing. "In a recent survey of 278 organizations using word processing, a total of 91 different job titles were found for people who operate word processing equipment." However, a large number of firms have divided job titles and responsibilities into two distinct groups. The first group pertaining to word processing as the production or typing function and the second group pertaining to the administrative support or nontyping function. Other frequently encountered word processing titles are: clerk/messenger/page, proofreader, trainer, librarian, operator, specialist, and coordinator. There may be a need for classifying and standardizing the job titles found in the word processing field to some degree, but because of the myriad of variation in the size and type of word processing applications, a certain amount of flexibility is still desirable.

In small installations, there may not be a need for all job titles. Instead, the duties and responsibilities may be grouped under only a few titles. In larger installations, there is likely to be greater division of duties and responsibilities and a need for more definitive job titles and descriptions. In any instance, the job titles in word processing seem to be no more confusing or encompassing as the single job title "secretary." The trend toward integrating word processing with data processing may present a further complication and extension of the current problem of numerous and vague job titles in the near future. As job titles and descriptions receive more attention by management, there should eventually evolve a greater clarity among titles.

Job Analyses

A job analysis is a restatement of job title and the job description but, in addition, includes qualifications and specific job requirements for the position. Some include routines, supervisory relationships, work performance measurement methods, salary ranges, and channels for promotion. Specific job analyses may differ from company to company, even though they may pertain to the same or similar job titles.

Generally, at least a high school education with typing speeds of 50 words per minute is required for an entry-level position in word processing. The possible exception might be the clerk/messenger/page duties. To advance from the entry-level position to a higher position involving machine work usually requires more typing speed and work experience. To obtain a supervisory or managerial job, a four-year college degree or equivalent work experience is usually required. The typing speed requirement may or may not be applied to an administrative secretary position depending largely on whether these secretaries are to be cross trained and cross utilized.

It is an obligation of management to set salary ranges for new positions as fairly as possible and not overemphasize the importance of either the correspondence section or the administrative support section. Salaries should be comparable to the "going rate" in related firms, high enough to promote job satisfaction, and sufficient enough to discourage an unnecessarily high turnover rate, which can create further time and expense problems in rehiring, training, and developing proficiency.

Career Paths

The introduction of word processing to the modern office has offered a greater number and variety of career opportunities for the office worker. Basically, there is a restructuring of jobs along the two major functions of word processing —that of production (typing) and that of administrative support (nontyping). Vertical advancement in both sections is possible from entry-level up to supervisory and managerial position, and in some cases, advancement may be possible into general management positions.

Within each basic function, there is the trend toward specialization of jobs arranged in some succeeding level of importance and demonstration of skill. With the emphasis on upgrading employment, a person may prepare for advancement through education, in-service training programs, and highly developed skill levels for accumulation of work experience. Not all employees desire advancement to higher positions, but some prefer a lateral change such as moving from a position in word processing to one in administrative support or merely specializing in one particular area such as legal documents.

Even greater opportunities for career growth will be evidenced from the influence of three major thrusts of growth that are expected in word processing: (1) The application and expansion of telecommunications. (2) The integration of word processing with the data processing function. (3) The integration of typesetting and printing functions with word processing.

These emerging career possibilities present to the person entering office work a maze of vertical and lateral paths of career direction. The goals the employee sets and the initiative exerted in pursuing these goals will largely determine personal career achievement.

Retraining

After the introductory training period required in the first phase of implementing word processing, training should not cease. Rather, training should be concentrated on in-house service programs aimed at retraining for specialized jobs, systems improvements, attitude training, and the ability to work in teams or organized work groups. All personnel must learn to "think tape" to understand the coding process and to speed up editing and revision procedures. Of course, a program for training new operators as they are hired must also be maintained. They must learn to apply their best skill under word processing conditions—typing continuously in noisy rooms, keeping records on the amount of work they produce, and accepting more close supervision.

Additional training programs may need to be devised as more complicated equipment is connected to existing installations. There is a possibility that handicapped training programs may appear in the field. The opportunities that word processing brings to the handicapped; to the socially, culturally, and educationally deprived; and to untapped creative abilities of others have the potential to broaden its impact. If information comes through ear sets, then the blind can touch type and handle corrections, storing, and transmittal easily. For the deaf, typing may be performed from hard copy rather than from a dictation unit. For those possessing acceptable levels of typing skills but otherwise educationally deprived, on-the-job training will need to be orga-

nized around English skills, business attitudes, and business conduct.

Psychological Impact of System Changes

The psychological impact of introducing word processing seems to revolve around the emotion of fear. Many of these fears may be overcome or relieved after a more thorough understanding of the system itself and a knowledge of the benefits to be achieved individually along with the company as a whole.

For the executive, the major fear is loss of status due to giving up the private secretary. The secretary feels a sense of loss of importance among staff and peers. This sense of loss may take some time to overcome but a good system that produces quality work for the executive with a reasonable turnaround time and effective administrative secretaries to take care of the other tasks are usually all that are needed to help the executive through the adjustment period. Sometimes, executives themselves feel a sense of depersonalization if they are strongly dependent on a one-to-one relationship and find it difficult to adjust to the idea of producing through team effort. Some executives, though probably not as many as in the first group, seem to fear making mistakes in adjusting to the new equipment and procedures involved in word processing. With new equipment comes new guidelines and instructions that interrupt the old patterns of dictating. Rather than risk the embarrassment of mistakes, these executives write out hard copy (which doubles origination time). Some may try to bypass using the system through rush orders, getting an administrative secretary to act as correspondence secretary, or specifying one's former secretary to produce all of the principal's work.

The secretary often has the same feeling of loss of status because it may have taken years to work into the position of private secretary. Fear increases as memories and rumors flourish regarding the concept of the old typing pool. The secretary will no longer have direct contact with the former executive and that comfortable two-person relationship. The idea of working with machines and equipment the major portion of the time may generate a strong feeling of depersonalization. Another fear of many secretaries is the loss of recognition by means of their two most highly developed skills—loss of shorthand and transcription application. Unless they are using their typing skills in keyboarding, they fear loss of concrete evidence of their productivity and worker status.

Those secretaries who elect to follow the administrative support sequence may fear the inadequacy of their ability to apply new skills in their transformed jobs. They may not have had ample opportunity to develop skills such as initiating work, setting priorities, delegating work, and motivating people—skills that are now needed.

In both groups, there are usually two characteristic fears when the word processing idea is advanced. First, there is the fear of losing a job. They believe that machines will be introduced and some jobs will be eliminated. Second, there is the fear of the unknown—when will the changes take place and how will they be affected.

The responsibility for alleviating many of these fears rests upon general management. The idea of word processing must be advanced early and explained as fully as possible. Assurance must be publicized that employees will not forfeit their jobs to machines. Meetings, bulletins, announcements, and personal interviews to determine career choice not only inform employees but make them feel wanted, needed, and necessary to the development of the new system. Management must also be totally supportive of the word processing idea. Half-hearted measures, hastily acquiring an array of equipment without planning for and with personnel can undermine a system before it can become accepted and operational. The major implication for management is that word processing is a system change, and it will require a total team effort to be implemented smoothly and produce effectively.

Job Enrichment

> With the emergence of secretarial specialists, the vital cog in a word processing system, many young secretarial aspirants may find their "work style" meshed with "assembly line" office roles in a mechanized environment.

This statement need not be necessarily so. It could be, but there are recognizable factors built into the word processing growth that should provide a wealth of job enrichment that is far beyond the customary job incentives such as bonus time, music, reward luncheons, and plaques. Because of the specialization feature, an employee can be assessed solely on individual merit and performance. Progressive management will make efforts to discover unrecognized talents and abilities and consider them in determining job placement and promotion. Because of job-level structure, there can be a wider distribution of authority and a greater

voice in recommending changes in company policies and procedures. Because of reorganization of systems and the emphasis on physical layout and environmental factors, there can be better working conditions. Because of the career paths available, there can be more incentive to keep up to date through reading, courses, and internal programs. Because of known quality and quantity standards within the company, there can be more job satisfaction and pride in output. Because of faster flow of information and reduced costs, there can be better customer service and improved business, indirectly assuring the worker more job security. Because of these factors, management can allot more time and facilities to providing better employee counseling and self-improvement programs for the benefit of the employee.

The application of word processing to the office is too new, varied, and promising to write off its impact as that of a fixed, mechanized, and unchanging environment that is damaging to the individual.

Instructional Objectives

Implementation

1. Trace the stages required for a comprehensive and systematic orientation program.
2. Describe how initial processing training after equipment is acquired can contribute to the success of word processing.
3. Explain why flexibility is needed in assigning personnel to work stations in the implementation phase of word processing.
4. Discuss the best approach to be made by supervisory personnel with the inception of a word processing system.
5. Enumerate several workload considerations.
6. Give reasons why it is important to establish an equitable distribution of workload.
7. List the steps in the basic word processing cycle.
8. Comment on the factors contributing to the complexity of work flow patterns.
9. State the general goal of controlling work flow.
10. Propose arguments for and against standardizing production goals in word processing.
11. Summarize key factors or accepted criteria that might be used as guidelines in determining work measurement.
12. Present at least one method of equating variable factors in measuring work performance.
13. State the primary purpose of work measurement.
14. Design a word processing production form on a half sheet of paper showing identifying information, directions and instructions, and production data.
15. Give justifiable reasons for the need for cost/savings reports to management.
16. Identify at least three input problems and three output delays.
17. Suggest a solution to at least one distribution problem.
18. Identify four areas important to making a decision on a program of expansion.

Personnel

1. Define a job description.
2. Distinguish between a job description and a job analysis.
3. Quote the average annual salary for beginning correspondence secretaries in the local employment area.
4. Describe the two major career paths offered by word processing.
5. Outline three major influences on the growth of word processing today, and comment on their impact on career paths.
6. Enumerate the types of retraining programs a company may need to develop for its employees.
7. Discuss the psychological impact of word processing system changes.
8. Analyze the potential job enrichment possibilities in word processing.

Instructional Activities

1. Show a film.
2. Take a field trip to see a word processing installation.
3. Have an equipment company bring a demonstration to your class or school.
4. Invite word processing managers from the community to speak about entry-level qualifications for their companies and what they look for when hiring personnel.
5. Have IBM put your class on the mailing list

to receive *Word Processing* magazine to be used for individual reading or a writing assignment.

6. Interview employees currently employed in word processing positions to determine how they view their jobs: training, status, adjustment, degree and quality of supervision and control, opportunity for raises and promotions, and their prospects for the future.
7. Have students give oral reports on a particular word processing application, specifying the organizational plan, equipment, routing system, productivity and cost savings evidenced by a company.
8. As a group project, construct a case problem of needs of a hypothetical business and prepare a physical layout of work coordination. Make suggestions as to the capacities of equipment needed and the number and level of personnel required.
9. Make a community survey of users of word processing (in writing or by telephone) to locate companies employing word processing personnel, the job titles used, salary ranges, and type of equipment.
10. Prepare an individual self-evaluation in respect to assessment of current skills levels applicable to word processing in comparison to some generally accepted skill goals as required in word processing. This could be more or less a career education study to explore whether word processing employment would be an interesting or feasible aspiration.
11. Given a case problem situation, have several groups discuss it. Identify the cause of the problem, suggest solutions to the problem, and state alternative actions for the employees involved.
12. Have a "brainstorming" session and open discussion of how management and employees can benefit by preventing word processing positions from being dehumanizing and too mechanized.
13. Construct terminology games:
    a. Use flash cards.
    b. Construct a word-finder puzzle using new terminology.
    c. Prepare several terminology matching exercises to reinforce learning and use of terms.
    d. Try a definition "bee."
14. If equipment is available, after training time on the machine, have students make suggestions as to improvement of materials, scheduling, and areas that should be emphasized more in their training on the machine. This feedback might be used to make a more interesting and effective program.
15. Using several methods of cost chargeback, such as cents per line, page, document, and weighted factors, have students compute the gross pay of an operator for one week without any base minimum guaranteed.
16. Include word processing organization as a part of an office simulation.

Glossary

Approval Copy—Copy that has been approved and is ready for final production.

Backlog—Unprocessed work.

Career Path—Direction of career progressing from one position to another.

Continuous Loop System—A system utilizing magnetic tape in continuous loops and enclosed in tanks.

Cross Utilization—Using a trained employee of the administrative support center on production assignment in the word processing center or the reverse.

Discrete Media System—A system utilizing recording media such as a disk or cassette.

Distribution—Delivered to final destination.

Goof Sheet—Inside company form to report errors or improvements between personnel.

Hard Copy—Material produced in writing.

Implementation—Putting system into operation.

Incentive—A technique used to increase production.

Input—Information going into a system.

Job Enrichment—Content of a job providing for worker satisfaction and recognition of worth.

OCR—Optical character recognition.

Origination—Creation of an idea.

Output—What is produced from a system.

Prerecorded—Material stored on production media for use at a later time.

Principal—Originator of input.

Production—Typing or keyboarding.

Shared Logic System—A system using more than one type of data or information.

Split Keyboarding—Two-operators keyboarding—one for rough draft; one for playback.

Tanks—Storage area for magnetic tape.

Time-Sharing System—A system using a commercial means of communication.

Turnaround Time—The amount of time from the beginning to finish of a job.

VOR—Voice operated relay.

Workstation—Work area such as a desk or any other needed furnishings.

Work Flow—Movement of material from person to person or workstation to workstation.

Work Measurement—Recording amount of time to do a quantity of work.

Suggestions for Evaluation

Multiple Choice

B 1. How many months are recommended for a complete orientation program? (a) 12, (b) 6, (c) 2.

C 2. After equipment is acquired, what personnel receives introductory training in using the system? (a) secretaries only, (b) executives only, (c) both groups.

B 3. During the implementation phase, on what basis should personnel be assigned to new work stations? (a) permanent, (b) flexible, (c) random.

A 4. At the inception of a word processing system, supervisory personnel will achieve best results by maintaining an approach described as (a) consulting, (b) task-maker, (c) watching.

C 5. Workload (a) is always distributed evenly in a new system, (b) cannot be altered in word processing, or (c) must be monitored to make adjustments.

C 6. Which step of the word processing cycle may be represented by microfilming material? (a) origination, (b) communication, (c) storing.

B 7. Which factor affects work flow patterns most? (a) office environment, (b) capability of equipment, (c) input media.

B 8. The easiest method to employ in work measurement programs is the (a) MTM, (b) single guideline, or (c) variable guideline.

A 9. The primary purpose of work measurement is (a) to plan work schedules, (b) to establish salaries, or (c) to count pages produced.

A 10. If an incoming job is an approval copy, the job production card would be marked (a) final, (b) draft, or (c) revision.

True or False

T 1. Performance records may be used as an aid in checking the effectiveness of existing levels of supervision.

F 2. The names and addresses of frequent correspondents must be dictated to the correspondence secretary whether or not they are prerecorded.

F 3. Consideration of an expansion program involves only one factor—equipment.

T 4. A job description is a summary of responsibilities and duties of a specific position.

F 5. A job analysis would not include training requirements.

T 6. One of the major career paths offered by word processing is the administrative support center, with its group of positions.

F 7. The integration of the word processing function with the data processing function will have little effect on career paths.

F 8. Provision for training in keyboarding is the only in-house training that can be justified.

F 9. The psychological impact of word processing system changes are very temporary, usually lasting only a few days.

F 10. An example of job enrichment is awarding a plaque to the worker with the highest production rate.

Discussion

The teacher may easily construct discussion questions based on stated student objectives for this section.

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TYPES OF WORD PROCESSING EQUIPMENT

In order to understand the operation of a word processing system, one needs a working knowledge of the basic word processing equipment. The equipment can be characterized in the following manner—hardware and software. Also given in this section are guidelines for selecting word processing equipment for school use.

The following terms will be useful when studying and selecting word processing equipment:

1. Hardware—The machinery which makes up a word processing system.
2. Software—Materials which operate and control the machinery in a system, such as programs and flowcharts.
3. I/O—Input/output element which enters information into a system to be processed and then produces a final result from this recorded input.
4. Stand-alone—A typewriter or typewriting system that is self-contained or not connected to any other component of the system.
5. Time sharing—A technique which allows many users to work with a computerized data system for different purposes at the same time. A commercial service of this type is also offered to subscribers through terminals placed in their offices.
6. Shared logic systems—A kind of text editing system in which several keyboard terminals can simultaneously use a single central processing unit's memory and other processing powers.

Hardware

Hardware is the machinery which makes up a word processing system. This machinery includes automatic typewriters and dictation input/output systems.

Automatic Typewriters

Automatic typewriting systems were developed to produce printed output at speeds ranging from 100 to 540 words per minute. The primary goal of maximum output speeds has been expanded to include text editing, a supportive function which increases output flexibility.

The most widespread use of automatic typewriters has been for office letters and memorandums, since these machines are capable of producing large quantities of form letters a day, with the system allowing insertion of variable data—names, addresses, greetings—manually or automatically from another station. Newer systems with magnetic recording media, memories, and visual displays (viewing screens) have extended application of the automatic typewriters to include full-scale text editing, rough drafting using the magnetic media for high speed error correction, automatic justification of margins, and numerous other specialized uses. In view of these innovations, the demand for automatic typewriters for statistical and pre-printed form typing has greatly increased.

The basic categories of automatic typewriters include: repetitive typewriters, correspondence units (such as the IBM Memory Typewriter), mechanical text editing devices, and display text editing systems.[1] A description of the specific types of machines found in each category follows:

Repetitive typewriters—Repetitive typewriters, such as the Auto-Typist, have been in existence for over 40 years; it is the only automatic typewriting system that is programmed by a perforated paper roll or tape. Using arms activated by air pressure according to a predetermined sequence of holes in the paper or roll, the proper key stroking is activated. These systems offer practically no flexibility for text editing, but can be used for pure routine, repetitive work that consists of multiple originals with little revision. One primary advantage of these typewriters is their reliability. When compared to the more sophisticated systems on the market, these typewriters require very little maintenance.

The elements in the system are an electric typewriter and a basic Auto-Typist console. Users with high volume, repetitive production requirements (form letters, collection letters, etc.) would find these rugged machines a definite time saver.

Correspondence units—Self contained typewriter systems can produce automatically up to 150 words per minute and have a memory capability of up to 4,000 characters. Typed materials are retained in the memory of the machine, thus allowing the operator to make revisions with a minimum of retyping. The operator types original materials into the memory where it is stored until changes must be made. At this time, the material is recalled from the storage area and the operator advances through the memory to the revision point, and makes the necessary changes. The single typewriter-like shell stands alone, with no external

[1] Dictaphone, *Word Processing*, p. 10.

control units; the internal storage capabilities extend to about 50 pages. However, text prepared and stored on the memory typewriter cannot be transferred to other pieces of equipment (such as can be done with removable cards or magnetic tapes). Memory typewriters are best suited for tasks requiring repetitive typing with minor text revisions (repetitive letters can be printed automatically with variable data such as names and addresses being typed in). Paragraphs and sentences which are frequently used can be stored and recalled when needed.

Self-contained typewriters are designed for office situations where the typing workload would primarily be handled by one person. These typewriters *would not* be included in a sophisticated word processing system, due to the limited text editing capabilities and lack of a removable recording medium.

Mechanical text editing devices—There are two main types of mechanical text editing devices. Magnetic card typewriter stand-alone systems use removable magnetic card storage media to store from 5,000 to 10,240 characters per card (depending on the brand selected); these machines have a memory which allows information to be converted onto these cards. There are both single and dual card versions which offer great text editing flexibilities. Converters are available which can transfer magnetic cards to magnetic tapes and vice versa. This system allows the operator to produce letter-perfect copy automatically; magnetic cards can be retained until copy has been approved or revisions have been designated.

The configuration of either the single or dual card system is comprised of a typewriter device, which fits a regular desktop surface, and a magnetic card console, either single or dual, which is upright on the floor. These magnetic card systems would be advisable for businesses which need extensive editing of correspondence (letters and memoranda); this system is also well equipped for use as support equipment for repetitive typing and mixed media demands.

Magnetic tape systems, quite similar to magnetic card typewriters, use removable magnetic cassette tapes for recording. There are single-tape models, designed to handle up to about 30 pages that require a minimum of revisions, and dual-tape units which make it possible to edit a tape extensively and store the results of the editing on tape. The elements in this system are a typewriter I/O device, and either a single or dual station magnetic tape console.

Display text editing machines—Display text editing units have the same basic capabilities as mechanical text editing machines, but are designed to have a visual display which gives a readout of the material keyboarded or material that is placed in storage.

As the words are typed, they appear on the display screen as they would normally be typed on paper. Corrections can be made on the display screen very easily. After all corrections have been made, the final copy can be automatically typed out on paper and can also be recorded for storage.

Some systems are unique in that they use a medium called a "floppy disk," rather than a magnetic card or tape. The disk allows an operator to store up to 60 pages of text on each diskette; this diskette makes filing of information easier and keeps paper filing to a minimum. Other systems use a "daisy wheel," or qume, printer which is three to four times faster than the ball element and can print both forward and backward.

The CPT (Cassette Power Typewriter) system has a typing output speed of up to 170 wpm. Each cassette can hold about 50 typewritten pages; typing and minor corrections can be handled at full rough draft speed, with revisions being done after the draft is completed. This system offers the optional daisy wheel printer, which can print 45 characters per second. The operator can choose to print text or use a display screen, or do both (duplex).

This system has the following elements:

1. A typewriter device
2. Dual station magnetic tape cassette console
3. Visual memory (optional)

All of the components are portable and can fit on a desktop. Primary advantages of this system are the short operator training period and low storage costs.

Any large scale correspondence typing and text editing tasks would be facilitated by using display text editing equipment.

Peripherals

Peripherals are devices which may be added to word processing systems as options to extend their capabilities. More sophisticated systems can frequently share a peripheral between multiple stations, making the use of a high-speed printer or other expensive piece of equipment cost-effective.

For example, the CPT Cassetype 4200 Series has an automatic form positioner, a high speed printer, a 14-line video display, and an interface for the

photocomposer as options. The Wang Laboratories System 1222 may also be equipped with a paper tape punch to generate photo-composer-compatible output.

It is advisable to consider the equipment you purchase for the possibility of adding peripherals.

Dictation Equipment

Dictation starts the input phase of the word processing cycle. Word origination can be accomplished by: (1) handwritten words; (2) dictation using shorthand and using shorthand machines; (3) dictation to an individual dictation unit; (4) dictation to a central recorder; (5) use of telephone to contact recipient of information; (6) face-to-face dissemination of information—verbal communication that bypasses the written process. The utilization of dictation as related to word processing normally involves the dictation to an individual dictation unit or to a central recorder.

Machine dictation speeds the process of moving speech from the word originator or author to the secretary or transcriptionist. By utilizing machine dictation, this process is shortened considerably—machine dictation being about five times faster than longhand, and over twice as fast as face-to-face shorthand. Additional productivity is also gained by eliminating the secretary in a "shorthandless" mode of dictating. Dictation equipment is the only form of modern word processing office machinery that is directly employed by the executive. Dictation units are designed to optimize the performance of both office and executive staffs.

The use of dictation equipment frees the secretary from taking dictation face-to-face . . . it requires 3 or 4 hours for a dictator to create one full hour of recorded dictation.

Dictation equipment comes in three basic configurations to handle certain types and volumes of dictation. The three types are: (1) portable units (off-line); (2) desktop units (off-line); and (3) central systems (on-line).

(1) Portable (handheld) units: portables comprise the fastest growing segment of the dictation equipment market and are designed for in-the-field use. They vary in weight from about one-half pound to two pounds and they come in sizes small enough to fit in a shirt pocket or purse to as big as a cigar box. Recordings are made on magnetic or plastic belts, or on magnetic tape reels, disks, cassettes or mini/micro-cassettes. Each of these media is easily mailed or forwarded to a central office for transcription on a compatible desktop unit.

(2) Desktop units: this type of unit is the most widely used, functioning in the "classic" one-to-one dictator-to-secretary environment. Each originator has a personal desktop dictation machine to record messages onto a medium that is then physically forwarded to a transcriptionist for typing.

Portables are differentiated from desktop dictation units primarily by their size and weight, and by their battery power source. They also tend to have fewer index/cueing controls, although a few models have control features that are equal to their compatible desktop relations. Desktop models are not as mobile as portables and do not tie up the telephone system when a lengthy document has to be dictated. Desktop models generally feature more controls, warning buzzers, end-of-belt alerts, and other user signals. Transcriber units variously feature foot controls, hand controls, or both, to enable the typist to start, stop, or repeat short segments of the dictation as keyboarding takes place.

(3) The most widely used dictating configuration for word processing is the centralized system. This class of equipment is designed for local or remote dictation from many locations to a central recorder or "tank." The dictator accesses the system via a personal microphone or handset interfaced to the tank by direct wiring or by the telephone network. Typist-transcriptionists continually monitor the tank and transcribe dictated correspondence. Central systems may be set up to handle from only two or three to an unlimited number of dictators.

Central systems employ many types of recording media—non-removable magnetic tape loops, or removable discrete (meaning individually different from any other unit) magnetic media such as belts, disks, cassettes, or mini-cassettes. Endless loop systems use multi-hour loops of mag tape as media. Permanently sealed within a case or "tank," the tapes go round and round for use and reuse. One tape head in the tank records dictation. Another head plays it out for the transcriptionist to hear.

There is also on-line systems—centralized, private wire, touch-tone, and PBX; and remote, or phone-in systems. The private wire dictation terminals use "thought tanks" and accept dictation from privately wired dictation terminals; there is a problem of interfacing the equipment with telephone services available. Some advantages are the service is totally provided by one vendor, there is no increased use of telephone lines, and there is no rental charge for the dictation module from the telephone company. In using the PBX (Private Branch Telephone Exchange), one can dial dictation from any telephone, at any location, at any time, 24 hours a day. There is no additional wiring,

every telephone is an input source, and it permits off-premises access.

When using endless loop systems or continuous flow systems, there is no need to constantly monitor the equipment to supply fresh media. There is no need to wait for the word originator to finish the dictation or even the segment of dictation being worked on before it can be transcribed. Monitoring panels enable the supervisor to see at a glance which tanks are in use, which are idle, and how much of a backlog remains untranscribed in each tank. One disadvantage is that the most effective way of using this equipment is the first-in, first-out method. The method provides less freedom in reacting to priorities and rescheduling work.

Discrete media* machines and systems use a specific, removable recording medium, that can be stored, mailed, or switched from dictation machine to transcription machine. Typical media include magnetically coated belts, disks, and tapes in cassette and cartridges.

Small, inexpensive cassette tape recorders that are often used for personal entertainment are argued against for use of dictation. They lack the controls and indicators that facilitate dictation and transcription tasks. Features like indexing, cueing, speed adjust, and auto (increment) backspacing are absent. These recorders frequently employ a cord-attached mike, and are usually larger and heavier than portable dictating machines.

Recording Media

The type of media employed in dictation equipment can be (1) standard, "C" type, Philips cassettes; (2) Philips-designed mini-cassettes; (3) a variety of special cassettes unique to a particular manufacturer/model line; (4) magnetic belts; (5) inscribed plastic "visible" belts; (6) tape reels; (7) tape loops; or (8) magnetic disks.

C-type cassettes come with total two-side capacities of 30-, 60-, 90-, or 120-minutes. However, no more than a total of 90 minutes of dictation is recommended for single, discrete media. This is due to the delay in getting dictated words into the hands of the secretary, and because longer lengths require tape thicknesses too thin to withstand the start/stop motion characteristic of dictation. The significance of speed (normal forward, fast forward, and reverse speed) is largely in the editing process where either the dictator or the transcriber can search for a specific segment of dictation on the media. If no high speed search capability is present, then the editing or reviewing of dictation may be a tedious process. The use of lower-quality media is not recommended for these reasons.

Transcription Equipment

Transcription output equipment must be compatible with the type of dictation equipment used. Controls can range from forward/backward control to a volume/tone/speed/digital counter locator device. The most widely used types used with word processing systems usually require a headset and foot control pedal.

Software

Software was previously defined as, "The materials needed to operate and control the hardware of a word processing system." The following discussion considers the major media, accessories, and supplies needed for the operation of a word processing center.

Typewriter Mechanisms

The IBM "Selectric" typing mechanism is the most prevalent device found in the word processing industry. These "golfballs" are sold to other word processing manufacturers, such as CPT and Redactron, with various changes incorporated to fit each manufacturer's requirements.

The daisy printwheel has recently been developed, and can type 500 words per minute or more. The printwheel is shaped like a daisy, with different characters on each petal. Like the Selectric element, various daisy printwheel typefaces are available.

Most typing mechanisms on the market today are available in two pitches—10 characters per inch in pica type and 12 characters per inch in elite type. Proportional spacing is found in many models. Approximately 120 different styles of typing mechanisms are manufactured.

Media

Magnetic media are most commonly used in word processing systems. Magnetic cards, tape cartridges, cassettes, floppy disks or hard disks can be erased and used again. Perforated paper or roll media are used in a few systems, such as the Auto-Typist repetitive machine. Magnetic systems come in single or dual models, thus allowing two stations for cards, tapes, or both.

* Discrete media—recording media that are individually distinct; they can be filed, mailed, moved or handled separately; examples are belts, disks, cassettes, or cartridges.

Which media would best suit your needs?

1. Cards are easily managed and filed; one card is used for each page, and so cards are excellent for single or short document material. Cards are easiest for new operators to work with.
2. Disks are as easy to work with as cards, but can store greater amounts of information. These disks are used mainly in the most sophisticated text editing equipment.
3. Magnetic tape has good application for work where paragraphs or sentences are constant, without need for much operator intervention. They are useful for merging of operations: for example, in a dual tape system, one tape could control variable data—names and addresses—and another tape could provide a form letter. Tapes and cassettes are more expensive than cards, but can hold a large quantity of typed text and are, therefore, less expensive to use.

There are numerous types of products specially designed for word processing systems. Most of the accessories listed below are not necessities but can help make the word processing center more efficient:

1. Mag card binders and other media work organizers.
2. Files and racks for storing tape cassettes.
3. Cubicles or work stations designed specifically for word processing operations.
4. Log sheets (*A necessity*).

Many types of software packages are available which offer programmed materials, word processing training/educational programs, media to media conversion systems, flowcharts, operating/teaching manuals, and project workbooks (most of these materials are obtained directly from the manufacturer). The more sophisticated word processing equipment manufacturers have made available various types of computerized business application information systems, with program listings and all pertinent system information (specific system flowcharts, process descriptions, operational procedures, etc.).

The definition of software has been recently extended to include customer education, a need determined by major equipment manufacturers. Large amounts of time and money have been expended on software, with educational approaches ranging from cassette-based training programs with self-tutoring programmed instructional manuals (Dictaphone's "Writing Out Loud" course to improve letter writing skills); full-scale audiovisual presentations (IBM's "First Time Final" executive level training program), and many more.[1] These programs help to increase the productivity of both the word originator and the word processing operator.

Selection of Equipment

Once the concept of word processing has been accepted and the decision to implement word processing has been made, information should be gathered in order to determine equipment needs.

Of utmost importance is the proper attitude toward the whole concept of word processing. People are one of the main ingredients that can make or break the system. One needs to work for the approval and cooperation of *all* people involved with the word processing center.

Listed below are some factors to consider before selecting equipment for a business and office education program:

A. Present equipment
   Look at equipment now available and consider the cost involved in implementing a word processing center. Is it feasible to incorporate word processing in the instructional program?

B. Determine physical requirements
   1. Can space be allocated for the equipment, furniture, etc.?
   2. Are there sufficient power sources?
   3. Consider physical layout and decor of the building.

C. Equipment lists
   1. Examine a list of all dictating equipment by principal user showing model and cost.
   2. Compare service and maintenance costs over the last five years.
   3. Compare supply costs over the past five years.
   4. Examine the number of possible operators for each kind of typing equipment.
   5. Determine level of service desired.
   6. Look at the possibility of acquiring peripherals.

D. Telephone system
   1. Consider present telephone systems available in the particular area. Is it feasible to install private line systems or use the public system?

[1] *Data Reports on Office Systems*, Datapro Research Corporation, McGraw Hill Book Co., Inc., Delran, NJ, p. S15-050-105.

2. Consider cost factors for both.
3. Consider the location and kind of telephone equipment incorporated in the building for the center.

E. Locality of the school
1. Consider the proximity of other word processing centers.
2. Is it feasible to enter into the word processing concept in the area, or is the locality too small to invest the monies involved?

F. Size of the school and program
1. Does the size of the school enrollment—faculty/administrators—warrant the maximum use of the center?
2. Does the enrollment in the business program guarantee the most efficient use of the equipment, or would there be a lot of inactive time on the equipment?

G. Budget

Probably the most important factor to be considered is the amount of monies available to implement the program now. In order to have the most effective center, all equipment must meet the demands required of it. If the equipment does not allow for the maximum productivity, then the center will be ineffective. Start with the basic equipment, consider the monies appropriated for future expansion, and consider the maintenance of all parts of the word processing center. Without the monies to support the word processing center, the program cannot reach its full potential.

Make a list of equipment features wanted. Look for such features as: decimal tabulation, justification, the ability to store and update address lists, and the ability to store personalized form letters. Now it is time to rate each of these needs, or machine features, that are associated with word processing applications. Some will be vital, others important, some nice to have but not so vital, and a few may be frills—pleasant to get as a free bonus but not a necessity. Be practical; make these evaluations in terms of actual needs, not in terms of an all-purpose system that does everything (including applications not foreseen as a need in the reasonable future—such as peripherals). When it comes time to choose equipment, this list will be invaluable in selecting the right equipment for a given application.

It is recommended that *Datapro Reports on Office Systems*, (Datapro Research Corporation) McGraw-Hill Book Company, Delran, New Jersey, be consulted for detailed information on word processing systems.

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PART II
TEACHING WORD PROCESSING SKILLS

INPUT

Dictating Skills

Skill Definition

Dictating can be defined as the act of recording information or words (input) in two ways:

1. Person-to-person dictation involves one individual's speaking to another individual who records the information through the use of a shorthand system or machine and who then transfers the information to the keyboard.
2. Recorded-voice dictation involves one individual's recording information on a storage medium such as a belt or tape (cassette) which is later played back and keyed, usually by another individual.

Objective

The student will be able to:

1. Given copy to be dictated, demonstrate proper machine dictating procedures as determined by instructor. Any good office procedures textbook will have guidelines to be used as to voice control, diction, organization, and specific information or directions to be included with the dictation.
2. Evaluate recorded dictation (instructor prepared) as to proper techniques, possibly using a check sheet as a guide. (See Dictation Check Sheet.)
3. Given an incoming letter requesting information, such as a price quotation, and related data, such as a price list, extemporaneously dictate a reply:
   a. Using person-to-person dictation
   b. Using machine dictation

Unique Application for Word Processing

In word processing, the traditional means of recording input by longhand and shorthand are still used and needed, but electronic dictation equipment is an important tool for input. In addition to person-to-person dictation which has commonly been used, principals or word originators may use a microphone or telephone to dictate information into a recorder that is located nearby or some distance away at a typing station or word processing center. There is much less person-to-person contact between the principal and the correspondence secretary who will transcribe the information. Therefore, it is extremely important for the word originators to have high-level communication skills.

In word processing centers the correspondence secretary handles all dictated materials for many principals. The one-to-one "boss-secretary" relationship is no longer the rule but the exception. The principal or administrative secretary (also a word originator) must keep in mind that the correspondence secretary is handling large volumes of work for and from many originators and should not be burdened with unclear, garbled directions and dictation.

The administrative secretary should also possess dictating skills, but these skills will not necessarily be needed by students at the job-entry level. These individuals will probably be employed initially as correspondence secretaries and will utilize keyboarding skills as opposed to dictating skills. However, as more on-the-job experience is obtained, they may be asked by the principal to handle routine dictating matters. To prepare for this event as well as to give a broader understanding of word processing procedures, the student should be acquainted with effective dictating techniques.

Building the Skill

It is assumed that most students at this stage of their training have had experience in taking dictation from an instructor and possibly from recorded media. Lead student discussions on the

following topics in order to develop awareness of what good dictating techniques are:

1. Discuss with students the meaning of dictation-readiness when taking or giving person-to-person dictation. (What dictation tools are needed by the secretary? What dictation procedures should be followed, such as clearly marking the beginning of each letter, etc.? What does the originator need to do in order to organize for dictation?)
2. In machine dictation, why is it extremely important for the originator to include special instructions and directions? Do these directions differ any from person-to-person dictation?
3. After developing or determining what good dictation techniques are, have students practice their dictation abilities by dictating prepared correspondence to one another. (See practice letters 1-4 for ideas.)
4. Repeat the same procedure as in 3 above using recording equipment. Elaborate dictating and transcribing equipment is not necessary. A portable cassette recorder can be effectively utilized.
5. Have students listen to and evaluate their own dictating techniques by using a check sheet to record their reactions. Explain that dictation check sheets (sample included) are routinely used in businesses to provide feedback for the word originators. This check sheet has been called a "goof" sheet among word processing authorities.
6. Collect materials relating to good dictating techniques. Most dictation equipment manufacturers and their representatives offer information that contains helpful information for both correspondence secretaries and word originators. Prepare bulletin board displays or posters using these materials.
7. Invite representatives from equipment manufacturers to demonstrate equipment and dictating techniques to students. Have students use the equipment if possible.

Activities

The following student activities are merely suggestions which should be expanded upon and developed to meet individual classroom situations, equipment, and factors.

1. Listen to recorded examples of dictated business correspondence. (The instructor can quickly dictate such materials stressing different dictating techniques.) Discuss what is right or wrong with the originator's dictating techniques and procedures. How can they be improved? It would be helpful to have several principals or word originators dictate letters in order for the student to compare techniques used or misused by different originators.
2. After discussing the "good and bad" points of recorded dictation, get copies of prepared correspondence. (See practice letters.) Practice machine and person-to-person dictation. Discuss with classmates or in small groups the techniques used and the need for improvement if and when necessary. Use an originator's check list and a transcriber's guide sheet as an evaluation instrument.
3. Take a field trip to a local business and observe first-hand the dictating procedures and processes being utilized. A chance to see an overview of the complete word processing cycle from the originator to output and distribution would be an excellent way to develop the concept of word processing.

Evaluation

Format and length of evaluation are dependent upon individual situations. Appropriate evaluation measurements can be developed using the following suggestions:

1. Given a letter requiring a reply (such as suggested in Objective No. 3), the student will demonstrate proper dictating procedures. The reply can either be recorded for playback at a later time, or can be dictated person-to-person to the instructor who can use a dictation check list for immediate evaluation and feedback.
2. Given a dictation check list as a guide or format, the student will evaluate recorded dictation as to proper dictating procedures and techniques.

DICTATION CHECK SHEET

"Help us help each other"

Please . . . .

- ☐ Identify yourself
- ☐ Dictate more slowly
- ☐ Dictate more loudly
- ☐ Dictate distinctly
- ☐ Spell proper names
- ☐ Spell unusual words
- ☐ Give complete information
- ☐ Use proper correction procedure
- ☐ Indicate unusual punctuation
- ☐ Other _____

_____

_____

_____

Can we Improve? ? ? ?

PLEASE TELL US: _____

_____

_____

ORIGINATOR'S CHECKLIST FOR MACHINE DICTATION

Remember:

Before Dictation

1. To organize thoughts and materials.
2. To identify yourself.
3. To indicate type of communication.
4. Stationery to be used.
5. Number of copies.
6. Format.
7. Spacing.
8. Rough draft.

During Dictation

1. Name and address of addressee.
2. Spell proper names.
3. Spell unusual words.
4. Indent for inserts or quotes.
5. Unusual punctuation.
6. Underscoring.
7. Paragraphing.
8. Abbreviations.

After Dictation

1. Dictate name and title.
2. Carbon copy distribution.
3. Indicate end of letter.

SPECIFIC PROCEDURES FOR DICTATING A LETTER

BEFORE:

1. Identify yourself.
2. Indicate what you are dictating.
3. Give the number of carbon copies.
4. Rough draft or Final copy.

Example:

This is *(your name)*. The following is a letter on company letterhead. Final copy with two carbon copies. To . . .

Mr. Thomas J. Flemming (F-L-E-M-M-I-N-G)
1973 Sherman Road
Denver, CO 80217

Dear Mr. Flemming:

DURING:

1. Follow the proper order—give special instructions of format if required.
2. Indicate "paragraphs."
3. Spelling and capitalization.
4. Special punctuation.

Example:

Thank you for your interest in our booklet on visual aids in business. The entire first edition has already been distributed. A second edition will be available in November, and we will send you a complimentary copy. (paragraph)

Please contact us if we can be of any further help. (paragraph)

AFTER:

1. Give your name and title.
2. Names of persons receiving copies.
3. Indicate end of letter.

Example:

Sincerely,

Joyce W. Thomas
Vice-President

Carbon copies to: William C. Jackson and Aaron (A-A-R-O-N) Fuller. End of letter.

PRACTICE 1

This is _____. The following is a letter on company letterhead.
(your name)
Final copy with two carbon copies. To—

Mr. Thomas J. Flemming (F-L-E-M-M-I-N-G)
1973 Sherman Road
Denver, CO 80217

Dear Mr. Flemming:

The enclosed questionnaire was designed to give us information so that we can make this year's sales training program most useful to you and your sales force. (Paragraph)

Your opinions about past programs and our tentative plans for this year will help us to serve your needs. Please return the questionnaire so we can keep you informed about changes.

Sincerely,

(Dictate your name and title)

(Carbons to: Wilma C. Jones and Bill A. Wilson)
(End of letter)

PRACTICE 2

This is _____. The following is a letter on company letterhead.
(your name)
Rough draft please. To—

Mr. Ronald G. Wittmer (W-I-T-T-M-E-R)
2480 Pearl Street
Boulder, CO 80302

Dear Mr. Wittmer:

Thank you for your interest in our booklet on visual aids in business. The entire first edition has already been distributed. A second edition will be available in November, and we will send you a complimentary copy. (Paragraph)

Please contact us if we can be of any further help.

Sincerely,

(Dictate your name and title)
(End of letter)

PRACTICE 3

This is _____. The following is a letter on company letterhead.
(your name)
Final copy with one carbon copy. To—

Ms. Thelma J. Pierson (P-I-E-R-S-O-N), President
Pierson Electronics
8972 Glenn (G-L-E-N-N) Valley Road
Dallas, TX 75220

Dear Ms. Pierson:

Enclosed is the engineering products catalogue which you requested. The (Capital M) Model B-409 is described on page 2.
(Review, listen back, and change the last sentence to read: The (Capital M) Model B-408 is described on page 2.) (Paragraph)

Let us know if there is any way we can help you.
(Review, listen back, and change the last sentence to read: We appreciate the interest you have shown in our equipment. If there is any way we can help you, we are at your service.)

Sincerely,

(Dictate your name and title)

(Carbon to: Charles B. Lane)
(End of letter)

PRACTICE 4

Outline and dictate your reply to the following letter.

April 26, 1976

1402 S. Lorne
Denver, CO 07241

Dr. Elaine Smith
410 E. 11th
Olympia, WA 98501

Dear Dr. Smith:

We look forward to having you as our guest speaker on June 15. So that I may properly introduce you, please send me information about your previous experience, education, and personal interests.

Also, please let us know your arrival so that we may meet you.

Sincerely,

J. J. Jondesen
Chairperson

Practice Letters 1-4 Courtesy of
Business Division
Southwest Virginia Community College
Richlands, VA 24641

Planning

Skill

The word *planning* involves devising a scheme for making, doing, or arranging something. In a word processing system, planning is a very important element of the input phase. The correspondence secretary spends a great deal of time preparing rough draft for playout as usable copy or in using sentences, paragraphs, or documents which have already been prepared and stored on magnetic disks or tape. In order to accomplish these tasks, the word processing operator must plan the work efficiently and precisely.

Because of the increased productivity through task specialization in word processing, effective planning skills are needed by the correspondence secretary. Planning in a word processing system requires making decisions regarding the format of the work initiated by the originator; planning supplies needed to perform the specified tasks; planning the order of priority of the specified tasks; listening and explicitly following instructions given by the originators; and visualizing how the final copy will appear. From this visualization, decisions must be made regarding appropriate margin settings, format, and style to be used for any piece of work. As a result of efficient planning, the correspondence secretary can quickly prepare and keyboard the rough draft form into a final usable copy.

Objectives

1. Given a list of assigned activities and specific directions for each activity, the student will demonstrate ability to listen and follow directions initiated by the originator, as illustrated by the final usable copy.
2. Given a list of assigned activities, the student will be able to prioritize the activities

according to their importance as indicated by the instructions.

3. Given a list of assigned activities, the student will be able to organize the materials needed effectively and accurately to perform the assigned activities.
4. Given a list of assigned activities, the student will be able to make appropriate decisions regarding format, including correct margin settings, attractive placement, and style.
5. The student will be able to complete the assigned activities, according to their importance, in final usable copy.

Unique Application of Word Processing

Teaching business students to plan their work efficently has always been important, and planning the input in a word processing system is just as important. Planning may not necessarily have specific unique applications for word processing; nevertheless, the skills needed for efficient planning and organizing are as important as ever in a word processing system.

A word processing system, like other office systems, is composed of people and equipment that must function efficiently in order to achieve the objective of increased productivity. Because the productive functioning of the entire word processing system depends upon clearly defined and closely followed operating instructions, the correspondence secretary's ability to listen to and follow directions is most important. Although good listening ability and skill in following directions is needed in all office systems, they are especially necessary skills needed by the correspondence secretary.

The ability to make appropriate decisions regarding format of all materials to be keyboarded is a very vital aspect to the efficiency of the word processing system. The correspondence secretary receives much of the material in rough draft form. The word processing operator must be capable of visualizing what the final copy will look like. This visualization will make it possible for the correspondence secretary to make appropriate decisions about the format of the material to be keyboarded. The material to be keyboarded is sent to the word processing center by a number of ways, including recorded media, person-to-person dictation, handwritten copy, rough draft copy, or others. It is the task of the correspondence secretary to make appropriate decisions regarding the format of the material to be keyboarded without the one-to-one contact with the originator. This aspect may be considered as a unique application for word processing.

One of the objectives of a word processing system is to return the work to the originator as quickly as possible. There is concern in the word processing system about the time that elapses between the initiation of a task and the completion, which is commonly called turnaround time. Because of the high productivity objective of a word processing system, the management of turnaround time is very important. This can only be accomplished through efficient planning and organizing of the tasks to be completed. The correspondence secretary may need to consider the merging of information on two tapes into one tape, or onto a document. This device may decrease turnaround for the correspondence secretary.

Planning and organizing have always been necessary skills of business students training for office positions; these skills are as important and have special applications for word processing systems as well.

Building the Skill

In order for students to develop efficent planning and organizing skills, the teacher must provide students with assigned activities that require the students to make appropriate decisions concerning organizing, priority setting, and planning daily activities. Some suggestions for developing planning skills which are applicable for word processing systems are listed below:

1. In order to give students practice in planning and priority setting, a list of activities to be completed by the student for an ordinary day should be prepared by the teacher. For this assignment, the teacher can include in the list of activities one unbound manuscript from rough draft copy, a mailing list for stencil duplication consisting of ten names and addresses from rough draft copy, and one form letter that will be sent to the ten names on the mailing list. The letter should be in rough draft copy also. Include on the list of activities one job marked RUSH. Have the students put the activities in order according to their importance, difficulty, or length of time needed to complete the task. (The teacher may refer to a typewriting textbook for sample copies of each of these activities.)
2. After the daily activities have been put in

order according to their importance, the teacher will instruct the student to plan and organize the materials that will be needed to complete each task. For example, the task may be sending the form letters to a list of customers. The student will need to consider the amount of materials needed to complete the task. Another consideration will be the time involved in completing the task. This activity may need to be moved to the top of the list in order to complete the job by the end of the day.

3. Have the student make appropriate decisions regarding format for each of the assigned tasks.
4. According to the directions given by the teacher by means of person-to-person dictation, have each student complete each activity.

Activity

The following suggested activity will help the student develop planning and organizing skills, which are vital in a word processing system.

1. The student will receive a list of jobs including a three-page manuscript from rough draft copy, a mailing list consisting of ten names and addresses in rough draft form, and one form letter to be sent to the ten names on the list in rough-draft copy. The student will receive the directions for each task by means of person-to-person teacher dictation. (See list of suggested activities.)
2. The student will plan and set priorities for activities according to their importance as indicated by the instructions.
3. The student will organize the materials including paper, reference materials, envelopes, etc., necessary to complete the tasks.
4. The student will make appropriate decisions regarding format of each of the assigned tasks.
5. The student will complete the assigned activities according to their importance.

Evaluation

This activity lends itself to formal and informal types of evaluation. By observing the steps taken by the student to organize and plan the activities, the teacher can informally determine whether or not the planning was done efficiently.

The final copy of each task can be formally evaluated by the teacher to determine whether or not the student followed directions. Also, the teacher will be able to evaluate whether or not the final copy is attractively placed and is error free.

List of Suggested Activities for Developing Planning Skills

A. Have each student type a manuscript from rough-draft copy. Instruct the student to send one carbon copy to Mr. Kennedy Waller, President, Sale Knitting Co., Inc. (check on address) and file one carbon copy. The student will receive instructions for this assignment by means of person-to-person teacher dictation.
B. Have the student type a mailing list from rough-draft copy. The list will be typed for stencil duplication. The mailing list will include a list of ten names and addresses. The student will receive instructions for this assignment by means of person-to-person teacher dictation.
C. Have the student type a form letter from rough-draft copy to each of the ten names that appear on the mailing list. The teacher will mark this job RUSH. The student will make one carbon copy of each letter for filing purposes and address envelopes for the letters. The student will receive instructions for this assignment by means of person-to-person teacher dictation.
D. The students will have two class periods in which to complete these activities.

Note: The teacher may refer to a typewriting textbook for examples of each of the above activities. The teacher may choose to use different problems.

Determining Priorities

Skill Definition

A skill in setting priorities includes processing documents on a first-in, first-out basis; handling rush jobs on a priority basis; handling revision work that is returned; and dealing with peak workload periods.

Determining priorities in word processing also includes decision-making for the efficient use of the equipment and materials.

Objectives

1. The student will be able to explain the application of work request forms in word processing.
2. The student will be able to set priorities for various word processing jobs.

Unique Application to Word Processing

In the traditional office, secretaries frequently do not have clear-cut priorities. They work from one job task to another. Continuous interruptions for one reason or another (handling telephone calls, visitors, dictation, etc.) cause inefficient use of time, materials, and equipment. In a word processing office, clear-cut priorities exist, and work is delegated for efficient productivity.

The procedures for determining priorities are unique in word processing. The supervisor determines the work priorities from the work request forms completed by the originators and files the forms with supporting cards, disks, or tapes in a work cart.

On the word processing job form, the basic job information is filled in: the name of the secretary to whom the work is assigned, whether the job is an original or revision, department, kind of input, and date and time needed. The form is placed in a folder in the proper bin (dictation or hard copy) for processing by priority. The work input may be categorized as "rush," "revision," or "routine." Rush jobs are placed in front of the bin. Chronological order is used for other jobs. Many times, a secretary has several days to complete a job. Those with no date requirements are placed behind current-date work. Dictation is handled on a first-in, first-out basis unless the dictator indicates the job is rush, in which case the folder goes to the front of the bin.

The form with the dictation or hard copy document is given to the correspondence secretary. Each secretary consults the bin for work to be processed in order of priority.

After completing the keyboarding, the secretary fills in the production data section of the form. The form along with the typed work is reviewed by another person for format, spelling, punctuation, and grammar. Work requiring corrections is returned to the correspondence secretary.

The secretary must also determine priorities for job tasks for efficient use of the word processing equipment. Job tasks must be handled from a cost or productivity point of view. The equipment should be operating as many hours as feasible.

Building the Skill

The teacher should develop tasks which might be encountered in word processing. These should include priority instructions such as rush, revision, routine, and date requirements. The following are suggested exercises for building priority setting skills:

1. Develop a series of task descriptions and have students determine priorities for the job tasks. For example, a typical series of exercises might include:

   dictated material
   revised documents
   repetitive letters
   mailing lists
   addressing envelopes
   forms letters with paragraph inserts
   photocopying
   rough drafts

2. Develop a series of filled-in work request forms and have students determine priorities for the job tasks according to the instructions on the form. A transparency master of a work request form is included herein.

Suggested Student Activities

1. Students discuss the application of work request forms in word processing.
2. Students are given a series of situations requiring the determination of priorities for job tasks. The following is an example of such a situation.

   You are employed by Inez Lucas, marketing manager of ABC Corporation. On Monday, July 26, you consulted the work bin and found the following tasks. Rank the order in which you would handle the tasks.

   —— a. Type letter to Mr. Jack Johnson, General Contractors, 200 Main Street, Roanoke, VA. This letter is to be composed of paragraphs 2, 7, 9, and 3 on tape 112. The letter must have today's postmark.
   —— b. Type dictated letters on tape 122. Must have these letters immediately for signature.
   —— c. Type rough draft interoffice memorandum to be distributed to seven departments by Wednesday, July 28.
   —— d. Address fifty envelopes for mailing statements of account on the first of the month. The addresses are on tape 123.

—— e. Type annual report to the stockholders to be mailed at the end of the month.
—— f. Proofread the Sharon Kern financial statements in McRay file.
—— g. Type within 48 hours twenty banquet invitations for Saturday, July 31, to be held at the Sheraton Hotel at 1 p.m.
—— h. Type collection letters on tape 22 to General Electronics, 30-day account; Rust Engineering Company, 90-day account; EFT Corporation, 60-day account.
—— i. Type in rough draft format report of marketing activities for the month of July. Must have it on my desk by 4 p.m. today.
—— j. Address 12 envelopes immediately for first mail pickups.
—— k. Photocopy last year's stockholder's report.

3. Students are given completed work request forms. Students should establish priorities for the forms according to job task and instructions on the forms.

Evaluation

A formal test should be developed by the teacher to measure the stated objectives.

WORK REQUEST FORM

Requester's name _____ Dept. No. _____

Date requested _____

Date needed _____ a.m. ☐ p.m. ☐

Project description _____

Project details _____

Requester's signature _____

Input		*Output*		*Delivery*		*Type Style*	
handwritten	☐	final	☐	client	☐	_____	☐
typewritten	☐	final draft	☐	_____		_____	☐
dictated	☐	rough draft	☐	deliver to	☐	_____	☐
other	☐	other	☐	_____		_____	☐

Paper		*Type Size*		*Line Space*		*Copies*	
letterhead	☐	10 pitch	☐	single	☐	carbon	☐
memorandum	☐	12 pitch	☐	1½	☐	photocopy	☐
plain bond	☐	variable	☐	double	☐	originals	☐
labels	☐			triple	☐	offset	☐
other	☐			other	☐	no. of each	☐

Reference Information

Presently on tape/card # _____ ☐

Assigned tape/card # _____ ☐

Do not retain ☐

Delete by ☐

Other ☐

Job Assignment

Date/time _____ Date/time due out _____

Priority code:				
	rush	☐	within 24 hours	☐
	routine	☐	within 48 hours	☐
	revision	☐	no date requirements	☐

Assigned to (operator) _____

Proofreader _____

Supervisor/Coordinator's initials _____

Date/time completed _____ No. of hours _____

Total units produced _____ Less errors _____ Actual prod. _____

Comments _____

Proofreader's signoff _____

Supervisor's signoff _____

OUTPUT

Keyboarding

Skill Definition

Keyboarding as it applies to word processing is the act of typewriting onto a keyboard which may or may not be producing hard copy. As the operator strikes the keys, the typed or keyed material may be recorded simultaneously onto paper in the machine (hard copy) and onto a magnetic tape, belt, card, etc., depending upon the equipment being used. The material may be keyed into the machine with it then being recorded directly onto magnetic media or being viewed on an attached screen before being transferred to magnetic storage for later retrieval.

Objectives

The student will be able to:

1. Given application and straight copy materials to be typed, demonstrate rough draft typing speed.
2. After reading literature or seeing demonstrations or films on automatic keyboarding equipment, discuss some of the unique keyboarding functions as they relate to a piece of equipment or system. For example, the student may be able to discuss the purpose or functions of the "how" and "what" keys and the dual function keys located on the Redactron word processing equipment; or the functions of the special console programming keys located on the CPT word processing system.
3. After discussing production measurement and how it applies to word processing, describe the need for building speed for all keyboarding situations.

Unique Application for Word Processing

With regard to word processing, typewriting or keyboarding must be taught as a basic skill with emphasis on the stroking techniques. Training and mastery for all types of application (production) keyboarding are needed, but special emphasis should be placed on keyboarding materials at high speeds or rough draft rates.

The wide use of input processing equipment along with automated typewriters in word processing has made the applications of rough draft and revision typing more feasible. Correspondence secretaries, using automated typewriters, may keyboard materials into a rough draft or final copy on first-time typing. Since the keyboarded materials are simultaneously recorded on some form of storage media, such as mag card, cassette, or disk, the correspondence secretary is less concerned with the correction of typing errors. First-time accuracy is still an important goal for the typist to achieve because any error made requires time to be corrected. However, revisions or mistakes made when using an automatic typewriter are corrected by simply backspacing and retyping at the time the error is made.

Traditionally, typing instructors have imposed penalties for any form of strikeover in student work. The accepted and proper method to correct errors on most automated keyboarding equipment is by backspacing and "striking over' or retyping the correction. The original error is automatically corrected on the recorded medium. The word processing student should be familiar with this concept even though automated equipment may not be available for classroom use.

Each automated system has its own special features or special function keys which are located either on the keyboard or on a console attached to the automatic typewriter. Some systems include dual function keys which can be used to program the machine for a special function as well as for routine keyboarding. For example, the Redactron automatic typewriter has this dual key function. The number keys can be used for regular keyboarding and can also be used to "tell" the machine to perform an operation such as double spacing or underlining copy even though the original keyboarding of the material did not include this procedure. This concept of "piggy-backing" should be presented to the student as unique features on some automated machines.

Other unique keyboard applications related to word processing may include spacing differently after punctuation. On the Redactron, for instance, the keyboard operator must remember to space twice after end-of-sentence punctuation, especially when occurring at the end of a paragraph or end of a line of writing. (The machine treats this spacing as a part of the word. If margin readjustments are to be made, the material as originally

keyed may not necessarily be at the end of the new line of writing.)

The above application of keyboard spacing is just one example of unique keyboarding functions in word processing. The student should be aware that automatic keyboarding requires basically the same keyboarding skills as used for traditional typewriting. However, depending on the particular model or brand of equipment, the student should also be aware that there are special applications to be learned which relate to each machine.

In order to have maximum transfer of skills from the classroom, which may have no word processing equipment, to the job-entry level with automated equipment, it is suggested that typing instructors teach for rough draft speeds using the backspacing, retyping techniques on any available electric keyboard. The single-element typewriter seems to be the basic keyboard unit for much automated equipment, and it would be of benefit for the student to have keyboarding experience on such a machine.

Building the Skill

It is important for the student to understand the concept of revision typing and of initially keyboarding onto some form of magnetic media. After the document (letter, memo, report, etc.) is revised by the originator, only the changes are typed and the material is corrected to reflect the changes. The instructor should therefore stress rapid rough draft rates for application and straight copy typing.

To develop this skill, give five-minute timed writings in which the student is to backspace and retype corrections during keyboarding. Any error retyped in this way in an error corrected. Have the student proofread and circle any uncorrected errors. Stress to the student that errors discovered after typing and after returning the carriage for another line of writing involve different correcting procedures. (The technique for correcting errors after a carriage return will be discussed more fully in a section on making corrections.) If possible, have students keyboard on a single-element typewriter, although rough draft speeds may be developed using any electric machine. Set goals for the student by increasing the amount of copy to be rough drafted during a five-minute period.

Develop application keyboarding techniques at rough draft speeds by supplying the student with various input (dictated materials to be transcribed, longhand, or rough draft source documents, as well as shorthand notes). After producing a hard copy, have the student proofread and circle any errors that were not corrected (backspaced and retyped) during the first typing. Be sure the student realizes that this method *cannot* be used on machines without a built-in correcting feature when final mailable copy is required. (Backspacing and striking over on machines without this feature will result in sloppy, undesirable copy!)

In word processing, output will be measured according to speed of production. Develop student awareness that speed is important and that it may be measured in words per minute, characters per second, or lines per hour. (Production measurement will be discussed more fully in another section.)

To develop student awareness of the word processing concept, have word processing equipment manufacturers send local representatives for classroom demonstrations. Have students compare the techniques of keyboarding which they see are different with this equipment. If a classroom demonstration or field trip to a local business where this equipment is being utilized is not feasible, have students discuss the literature which you have collected. Most equipment manufacturers have excellent materials for use in the classroom. Pictures of the equipment will be especially helpful in discussing unique keyboard features.

Activities

The following list of student activities is merely suggestive and should be expanded upon to meet individual classroom situations, equipment, and time considerations.

1. Compare manual or electric keyboarding to automatic keyboarding using the brochures, pamphlets, and other materials collected by you or your instructor. Develop materials to be used for bulletin board display or individual posters to be displayed in the classroom.
2. Present a written or oral report to the class on keyboarding differences found on automated word processing keyboards.
3. Take five-minute timed writings using the rough draft technique of typing and backspacing for error correction. Keep records of your rough draft speeds as you strive for higher goals.

4. Type selected business correspondence that has been written in longhand. Type at rough draft speeds, correcting mistakes by retyping. Proofread and circle any errors not corrected during original typing. Indicate time elapsed for completing this application typing.
5. Using the same business correspondence as used in 3 above, type it once again. Correct the mistakes by the traditional erasing method. Record the time for producing "mailable copy." Discuss the time differences involved in typing both ways.
6. What does this time difference mean in terms of production measurement? Discuss how this might be a savings factor—time and money—for the business office.
7. If a demonstration is given as to machine usage, how might this equipment affect your future in an office setting?

Evaluation

Format and length of evaluation are dependent upon individual situations. Appropriate evaluation measurements can be developed using the objectives as the criteria. For example:

1. Devise a grading scale based on rough draft speeds.
2. Give an essay or an objective test to cover information as outlined in Objective 2.
3. Time production or application typing on appropriate business correspondence. Have students retype over errors while producing first-copy typing. Deduct points on any uncorrected errors ("strikeovers" are considered as correct).
4. Grade five-minute straight copy timed writings taken using rough draft speed techniques.

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Making Corrections

Skill

Making corrections involves the elimination of typographical errors so that the typewritten copy will be usable. It is very important that all typographical errors are removed from the final copy. One would not want to send out hundreds of letters containing errors. An efficient word processing operator should be sure that all output is error free and of a high quality.

Objectives

1. The student will be able to list four ways that errors may be dealt with on word processing equipment.
2. The student will be able to explain how the typist corrects an error that is detected during typing.
3. The student will be able to explain how words can be deleted and added after a line return.
4. The student will be able to demonstrate how errors are corrected using the backspace-strikeover method.
5. Given a copy of a business document, the student will be able to retype the document and make the necessary corrections involving the addition and deletion of words.

Unique Application for Word Processing

The manner in which typographical errors are corrected on word processing equipment depends to a large extent upon the type of equipment that is used. Basically, errors can be dealt with by character, by word, by line, and by paragraph. On most equipment, to correct an error within a word, the typist simply backspaces and types the correction over the error. This process is referred to as retyping rather than striking over on most word processing applications. Backspacing erases material from memory but not from the typewritten copy. On some machines, it also activates the correction tape which erases the material on the paper. When the typist notices an error after a line return, the typist must return to the beginning of the line containing the error, space over to the word that is in error, delete the word, and type the correction. Entire lines and paragraphs can be deleted and added in a similar manner.

Building the Skill

In order to give students an opportunity to correct errors in a manner similar to the way they would be corrected on word processing equipment. the instructor could use the following exercises:

1. Demonstrate correction of errors using the backspace-strikeover method. The instructor should explain that on word processing equipment, backspacing erases material from memory and retyping adds the correction to memory.
2. Give the students some type of business document such as a letter to type. Speed of typing should be encouraged. Instruct the students to backspace and retype when an error is made. This will create a strikeover on the typewritten copy.
3. Give the students a typewritten copy of some type of business document such as an interoffice memorandum and a list of additions and deletions that should be made in the memorandum. Instruct the students to retype the memorandum making the necessary corrections. The typist should demonstrate how typographical errors are corrected by backspacing and retyping.

Student Activity

The student will learn how to correct a typographical error on word processing equipment by typing a letter and correcting errors by the backspace-strikeover method. In addition, the student will learn to insert and delete words by retyping an interoffice memorandum. The instructor will provide the student with a list of additions and deletions that need to be made to the memorandum.

Evaluation

A formal test should be constructed by the instructor to measure the first three objectives. The instructor should evaluate the two suggested activities on the basis of whether all corrections have been made.

Transcription

Skill Definition

Transcription, the act of processing raw input (printed or recorded words) into a professional finished output (smooth correspondence), is the forte of the correspondence secretary. The output can take on a variety of forms, be it an official letter, memorandum, order, request; basically, anything which utilizes the written word for conveyance of ideas, thoughts, or directives.

The art of effective transcription requires certain basic skills and abilities:

—to type (quickly and accurately)
—to spell (correctly)
—to punctuate (correctly)
—to possess basic English language skills
—to be a good listener and possess correct interpretative skills.

Unlike the singular process of copying material while typing, the student of transcription must be able to work independently and reliably to create the desired final correspondence. Practice alone will not contribute to the development of this skill. Building relevant skills for each of the various components of transcription skill seems to be the best approach to take for the development of an efficient transcriber. The integration and effective utilization of these subsidiary skills in mandatory. In spite of a general inability among many executives, businesspeople, and correspondence secretaries to write well, readers expect reasonable quality, if not excellence, in official writing. In many cases a letter is the principal means, if not the only one, which a reader, particularly one outside the office, has of evaluating the business originating that correspondence. If the quality of the presentation/transcription is poor, or even mediocre, the outsider is inclined to suspect a lack of capability in substantive matters.

Transcription usually takes one of four forms: direct dictation, shorthand notes, rough drafts, or dictation from a machine. Machine dictation is firmly entrenched into office procedure. It is used by young, inexperienced dictators, as well as veteran executives; it is used in small, unpretentious offices and in penthouse suites. It lacks the special rapport of person-to-person dictation. When machine dictation is used by employees, the secretary is able to begin transcribing as soon as a record or tape containing the dictation and an accompanying log sheet or chart are available.

Personnel in high-production centers have found that the most efficient transcription procedure includes the use of automatic typewriters. All dictated material is transcribed in rough draft form on automatic typewriters. The copy is then referred to the dictator for checking and editing. When the edited copy is returned, the word processing operator presses the appropriate keys on the automatic typewriter and manually inserts or deletes suggested changes in the copy.

Word processing has made transcription more and more important in today's office. Business teachers have had a tendency to dig their heads "in the sand" and disregard technological advances in real world business operations/conditions. How have teachers taught transcription? Unfortunately, a lot of teachers have placed students on "rotation," utilizing transcription machines and belts without regard to building and exercising the students' skills in spelling, punctuation, grammar, word division, capitalization, logic of information, and use of references.

Objectives

The student will:

1. Obtain and demonstrate the technical skills needed for employment as a correspondence secretary by producing mailable copy, typed accurately and quickly, free from spelling, grammatical, punctuation, word division, and capitalization errors.
2. Recognize strengths and weaknesses in skill capacities by taking a pretest on skills needed in transcription and devote additional time to any weak areas.
3. Prepare work using reference books—particularly the dictionary, ZIP code directory, and a secretary's handbook.
4. Prepare materials that require demonstration of logic of information. Perfect letters produced by automatic typewriters depend upon the typist's preparation.
5. Demonstrate good listening skills; accurate listening depends on concentration.
6. Perform work with interruptions, at times; since this can be expected in an office.
7. Practice transcription at rough draft speeds, since mistakes can be corrected by backspacing and retyping. Editing of rough drafts from transcription and preparation of acceptable final copies will be demonstrated.
8. Perform work quickly and accurately since

word processing was developed to cut down the cost and time it takes to type a letter or report.

9. Be able to describe the differences in regular typewriters and automatic typewriters, although automatic typewriters may not be physically present in the school.
10. Be able to transcribe from four types of input: shorthand notes, machine transcription, rough draft, or direct dictation.
11. Develop an understanding of the working relationship between word originators, or principals, administrative secretaries, and correspondence secretaries.

Unique Application for Word Processing

Although many technological changes have affected the handling of dictation, skill in using shorthand and the ability to transcribe machine dictation are still very important. Dictating and transcribing equipment have been used in many business offices for a long time. Students entering the profession must recognize that they must be able to transcribe from machines, take dictation in shorthand, transcribe from rough draft, and transcribe from direct dictation at the typewriter. Some experts predict that transcription from handwritten copy will become obsolete.

While many secretaries still take direct dictation or transcribe from a single dictation unit, many businesses are finding it economical and efficient to establish word processing systems to produce much of the work formerly handled by the executive secretary or administrative assistant. In companies having word processing equipment, the executive transmits dictation by means of a telephone or a remote microphone to the word processing center where the dictation is registered on recording equipment. The correspondence secretary in the center transcribes the dictation on equipment often referred to as automatic or magnetic typewriters. Some centers have added equipment that makes it possible for them to tie in with data banks in other locations.

The correspondence secretary transcribes the dictation at rough draft speeds, which can be even twice the regular rate of speed. Errors are corrected by backspacing and retyping. At the same time the secretary is transcribing the dictation, the material is automatically recorded on magnetic tape, card, or cassettes. It can then be played out automatically, error free, at speeds of 150 up to 450 words a minute, ready for the dictator's signature or revisions. The magnetic tape, cards, or cassettes may be stored for reuse or for updating.

Expensive equipment is not necessary to teach word processing skills to students. It would be desirable to expose and train all students on automatic typewriters. Unfortunately, austere school board budgets necessitate alternate means of training. Word processing has been successfully simulated with the use of electric typewriters and machine dictation equipment. Many of the methods used in word processing can be used without purchasing expensive equipment and making major curriculum changes. Once the student has the basic skills for word processing, it should take less than a week to become acquainted with the basic operations of a word processing machine.

In preparing students for word processing, teachers must be willing to break from the past and rid themselves of comfortable habits and notions. Acceptance of new realities and perceptions of what can be done for students must be undertaken by teachers. Teachers will need to spend time with task analyses to learn what office workers do, how office equipment is used, how work is received and processed, and required job standards. What does this mean in actuality for transcription? A lot of employees will be freed from the yellow pad. Some employees will remain correspondence secretaries, some may become administrative secretaries, and some may go into other areas in the office.

Basically, the unique application of transcription and dictation to word processing is: dictation and transcription will have to be faster and will be based on a more convenient method of information generation. Managers are beginning to realize that they cannot afford double time for dictation purposes—the dictator's time plus the secretary's time. Machines can effect substantial savings in the dictation phase as well as the transcription phase of correspondence. As one article was headed in a recent copy of the *Business Education Forum* (January, 1977), "Word Processing: A Cure for the Ills of the Traditional Office."

Building the Skill

1. Interrupt students while they are working. One of the most difficult adjustments for beginning office workers to make is adapting to constant interruptions in their work—the telephone rings, someone comes in to see the boss, and/or a telegram has to be sent immediately.
2. Establish a policy that students keep an alphabetic file of all completed assignments. This procedure not only teaches students the necessity of being well organized and of

keeping their files up to date but also provides them with an excellent profile of all completed work.

3. Insist the students follow all special notations in letters and memorandums.
4. Sign all correspondence that meets mailability standards. Encourage students to prepare rough drafts at their typewriters, and permit the students to retype over their errors. After all, the new automatic typewriters operate this way. However, let them know their final copy must be mailable, with no retyping over any characters.
5. Teach students to work under pressure. Although few offices require their personnel to work under pressure all the time, there will always be occasions when "this letter has to go out today."
6. Allow for a considerable amount of free time during a class period one day. To prepare students for this situation, assign such a small amount of work that they will have at least half the period free. Do not inform students of the plan in advance, and try not to interfere with whatever they choose to do for the remainder of the class. After this free day, discuss with students how they could have used their time.
7. Leave students unsupervised for a short period of time as often as possible. After all, what does a secretary do when the boss is away? Although Virginia, as most states, requires a teacher to be in the classroom at all times, perhaps you could arrange to watch the class from a nearby room without the students realizing that you are there. It is essential that students learn to work without supervision.
8. Assign a project in advance and then do not mention it again until it is due. Teachers are guilty of assigning a project and reminding the students of the completion date almost daily.
9. Give the students the opportunity to select the typing paper needed to complete assignments. Maybe all memorandums could be typed on pink paper, letters on white, invoices on yellow, and other such ideas. These instructions could even be placed in the office manual for the correspondence secretary.
10. Review spelling rules that contain the following: commonly mispelled words; "tricky" or unusual words; and words that sound alike and are spelled differently; such as, council, counsel; adapt, adopt; their, there; and hundreds of other such word pairs.
11. Review punctuation and grammar rules.
12. Reivew a unit of instruction using references.
13. Review vocabulary words and the logic of applying them in sentences.
14. Review rules in using the hyphen.
15. Work in actual business offices whenever the opportunity arises in order to acquire knowledge of real-world applications. Ask business people to volunteer their help. Since schools cannot provide this practical side of office work, it is up to office administrators to help in their communities by offering their facilities and their personnel for this purpose.
16. Teach more transcription to the students. The transcription can come from rough draft, direct dictation, shorthand notes, or machines. Dolecheck says, "Too many schools and universities have been teaching machine transcription at an acquaintanceship level only (that is, how to operate the equipment) even though businesses have used dictating machines for years. With the advent of word processing, however, the business student who wants to be a correspondence secretary must have more training in machine transcription."[1]
17. Give the students some direct dictation or recorded dictation prepared by the teacher concerning the history of word processing, why word processing came about, terms used in word processing, how word processing will affect their future, equipment used in word processing, and other such ideas.
18. Review the different styles of business letters and the different styles of punctuation used in the letters.
19. Invite resource people from the community to the classroom to discuss word processing. Businesspeople who have installed word processing equipment in their offices would be excellent sources.
20. Try to arrange for companies who manufacture word processing equipment to come to the classroom and bring actual word processing equipment.
21. Provide the students with real-life experiences in communications. Request some sample letters from local businesses and have all identification—names, dates, monies, and other such items obliterated.

[1] Carolyn Crawford Dolecheck, "Word Processing: A Challenge for Business Educators," *Delta Pi Epsilon Journal*, Volume 16 (November, 1973), p. 15.

22. Omit some words from the dictation (machine, shorthand, or direct) and have the student fill in the logical words.
23. Use posters, pamphlets, and brochures from all transcribing machine manufacturers to prepare bulletin boards and exhibits.
24. Spend most of transcription class time transcribing. Homework should be given in the form of study words, transcription hints, secretarial hints, machine operation instructions, and other such ideas.
25. Have reference materials available:
    a. Telephone directories—regular and classified
    b. City directories
    c. Credit and financial information
    d. Current articles in magazines and newspapers
    e. General information and statistics
        (1) THE WORLD ALMANAC AND BOOK OF FACTS
        (2) INFORMATION PLEASE ALMANAC
        (3) ATLAS AND PRONOUNCING GAZETTEER
        (4) GOVERNMENT PRINTING OFFICE MANUAL
    f. Grammar textbooks and reference books for stenographers and typists
    g. Postal information and ZIP code directories
    h. Dictionaries
    i. Thesaurus
    j. Supplemental textbooks and materials relating to secretarial office practices and clerical office practices
    k. Books on word processing
26. Schools can set up word processing labs that integrate advanced typing, machine transcription, and automated typing. If a school cannot afford to purchase or rent automated typing equipment, a word processing center can be simulated using selectric typewriters and desktop transcribing machines.
27. Work with the cooperative office education coordinator and try to locate some word processing centers where students may actually be placed on the job to gain practical experience.
28. Have students practice typing for an automatic typewriter by preparing letters, reports, forms, and other typing in rough draft form in school. When mistakes are made, students should be trained to backspace and retype the correct letter over the incorrect letters. Make sure to stress the fact that every letter backspaced across is automatically erased on the tape of an automatic typewriter.
29. Perhaps teachers will want to consider introducing new programs for word processing which devote one or more semesters to different types of transcription methods. With the advent of word processing, the business student who wants to be a correspondence secretary must have more training in all types of transcription, especially machine transcription.
30. Give the students job request forms with all transcription on tapes, from rough drafts, and from other types of dictation. Students should have practice preparing materials from specific instructions.
31. Prepare and maintain a transcription error analysis chart for each student and mark areas of difficulty when grading dictation.
32. A correspondence manual, or transcription instructor's manual, could be given to the students.
33. Function around a pretest, practice, post test plan. As a result of the pretest, the student should see a definite need for improvement and be ready to expend more effort on assigned practice materials. The student will understand the need for and have a better attitude toward drills. The post test shows the student and the teacher the actual skill improvement resulting from the prescribed practice.
34. Make a bulletin board display of different sizes and colors of stationery and envelopes, also different grades of paper. Teach students cost and purpose of various weights of paper.
35. Have a bulletin board display on correct placement of short, medium, long, and two-page letters with carbon copies and envelopes.
36. Have at least one secretarial desk in the room used for transcription. Rotate the student at this desk.
37. Show films which can be obtained from International Business Machines:
    a. *From Thoughts to Words to Action*, 12 minutes, color
    b. *Impressions Beyond Words*, 11 minutes, color
    c. *Paperwork Explosion*, 6 minutes
    d. *MT/ST Demonstration*. .
    e. *New Way to Set Type*, 10 minutes, color
    f. *Breaking the Production Barrier*, color

Activities

1. Have students complete transcription and clean, rough draft copies in one class session. Limit the correspondence to a maximum of three typewritten pages. The word originator can then go over the transcript and make possible revisions. The students then can prepare final copies of the transcripts.
2. Dictate letters and other business correspondence on transcribing machines for the students to transcribe. After the students have had sufficient practice in transcribing from machines, dictate some materials with errors in them for the students to try to locate. The students should prepare a rough draft first, without correcting errors, before they prepare the final copy.
3. Give the students some objective tests to see how well they have mastered spelling, punctuation, grammar, word division, capitalization, logic of information, and the use of references.
4. Give the students direct dictation at the typewriter and have them type rough drafts, edit the rough drafts, and type final copies.
5. Give the students handwritten materials and have them prepare rough drafts and then final copies at the typewriter.
6. International Business Machines has an educational program, "Transcribing Skills for Word Processing," which provides forty-five hours of class time in machine transcription training as it ralates to word processing. The course's objective is to build and strengthen secretarial skills through realistic office experiences. The student's role becomes that of a transcriptionist in the word processing center of a large office complex which contracts secretarial services to six different companies. The twenty recorded belt learning activities include: preparation and writing of business letters and related documents; basic rules of grammar, punctuation, and spelling; plus secretarial procedures and responsibilities. Ask your local International Business Machines representative for more information about this program.
7. Have the students keep a notebook of words they often misspell. Encourage the students to refer to this notebook for ready reference when transcribing.
8. Prepare a copy of a letter and give the copy to the students. Dictate an answer to the letter by direct dictation or machine dictation As a variation, quote from the letter incorrectly to see if the students will discover the error. Dictate identifiable material that is not in harmony with something else. Make obvious errors and see if the students can find them. Make the students aware of the necessity of being constantly attentive.
9. Dictate three or four letters, two or three telegrams, and one airmail letter. Tell the class to imagine that it is 4:30 in the office and that they plan to leave by 5:00. Instruct them to transcribe in order of importance.
10. Have the principal of the school dictate using one of the transcribing machines in response to mail. Ask the principal not to give any specific instructions so that the students will have to use their reference materials and sources. Let the entire class transcribe the letters from the dictating equipment and select actual ones for mailing. Bonus points could even be given for the letters selected.
11. Arrange for a field trip to an actual word processing center.
12. Have students compose replies to correspondence by giving them specific instructions as to what should be contained in the letters. An example would be: J. T. Bell has a charge account with the local Leggett's Department Store. No payments have been made for 90 days. The balance of the charge account is $95.50. Write a letter requesting a minimum payment of 30% of the balance. Authorities, as well as businesspeople, are telling business education experts that students need to have more practice in composing letters and other types of correspondence.
13. Have the students assume they are beginning workers in a new office where there are no reference books. Tell them they may purchase five reference books that they think are the most essential for them to have. Have them list the ones they would choose and ask them to justify their choices.
14. Give the students a spelling test on Fridays from a list of frequently misspelled words. Perhaps the teacher could give 20-25 words per week. Teachers could also include words that they feel their students have trouble with. A list of frequently misspelled words can be found in steno pad covers, reference books, and the FBLA list.

Evaluation

Evaluation of progress is an integral part of the teaching/learning process. In a skill subject, em-

phasis is placed on two kinds of measurement: measurement of progress in formation of the skill and measurement in terms of terminal skill achievement. In transcription, each day's work in the beginning and intermediate stages is in a sense a test—a measurement of growth and progress in using the skill. For this reason, formal, assigned tests (particularly those that use up a large portion of class time) are held to a minimum. Testing in any subject should serve two major purposes. One should be to diagnose student difficulties so necessary remedial work may be done. The other purpose is to measure progress achieved by the students.

In the terminal stage of transcription, many tests may be given to measure the final skill. These tests may cover the following: grammar, spelling, punctuation, capitalization, and other such essential skills for transcription. The final skill is tested, as it is taught, by employing the skill in essentially the same way it will be used on the job. Many experts have stated that, "Students should be able to achieve 25 to 30 production words per minute from transcription machines." [2]

For the final grade, students could produce work and be timed with specific turn-around standards set for each item. All copy must be mailable and/or usable.

Specific Suggestions for Evaluation:

1. Teachers may use recordings prepared by manufacturers for testing purposes. Some firms present certificates of achievement to students successfully transcribing certain requirements.
2. Evaluate the transcription on the degree of mailability:
   a. Mailable = A
   b. Mailable with corrrections = B or C
   c. Unmailable = D or F
3. Teachers should maintain a transcription error analysis chart for each student. A brief examination of the charts will help the teacher prescribe a remedy for each individual's weaknesses. Students can observe the occurrence of repeated mistakes, and if they care about improving their transcription skills, the charts will be a definite help.
4. Teachers can administer post tests similar to the pretests given.
5. Teachers can grade with the point system based on these figures:

	Perfect	*Mailable*	*Correctable*
Short-length letter	2	1	0
Medium-length letter	4	2	0
Long letter	6	3	0

   Points could be totaled and at the end of the week a letter grade assigned.
6. Select any or all of the activities listed in the activities' section for evaluation purposes that seem appropriate to a teaching situation.

Realistically, the basis of any grade depends on the grading objectives of a particular school and on the philosophy of the teacher. Grades should consist of two factors: improvement according to ability and attainment of an established goal or objective.

Thus, the students are on a stage. "The classroom becomes a stage; students, the actors; and assignments ,the script. Given these ingredients, drama after drama unfolds where valuable lessons in human relations, work habits, supervision, skill development, etc., are learned." [3]

[2] Arlene Johnson, "Word Processing—Your Curriculum Is Showing!," *Business Education Forum*, Volume 30, Number 6 (March, 1976), p. 5.

[3] Betty Cooke, "Teaching Via Simulation," *Business Education Forum*, Volume 27, Number 4 (January, 1973), p. 48.

Glossary

Error Analysis Chart—A chart indicating types of errors made by the student in preparing the final copy. The chart is used by the teacher and student to determine which skills need extra attention, so that more time can be devoted to these skills.

Job Request Form—A form that may be sent to the correspondence secetary with specific instructions as to preparing the final copy.

Transcription—The art of processing raw input (printed or recorded) into a professional output.

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JOB REQUEST

Person Requesting Work _____

Department _____

Phone or extension Number _____ Date _____

Date work should be completed _____

Description of Project _____

Details for Project _____

_____

Input

- ☐ Handwritten
- ☐ Typewritten
- ☐ Dictated
- ☐ Other Form

Output

- ☐ Final
- ☐ Final draft
- ☐ Rough draft
- ☐ Other

Delivery

- ☐ Mail
- ☐ Client will pick up
- ☐ Someone in office will pick up
- ☐ Deliver
- ☐ Other Delivery

Type Size

- ☐ 10 pitch
- ☐ 12 pitch
- ☐ Proportional
- ☐ Other

Spacing

- ☐ Single
- ☐ 1½
- ☐ Double
- ☐ Triple
- ☐ Other

Number of Copies

- ☐ One
- ☐ Two
- ☐ Three
- ☐ Four
- ☐ Five
- ☐ Other

INFORMATION FOR FILING AND RETENTION

☐ On file already on log sheet _____ ☐ assign a log sheet

☐ Destroy after preparation ☐ Requester will pick up

☐ Other Instructions

_____

TRANSCRIBING PROFILE OF _____

ERROR ANALYSIS CHART

Carbons						
Checking accuracy of dictated facts						
Envelopes						
Erasing						
Grammar usage						
Incorrect substitution of words						
Letter appearance						
Number usage						
Placement						
Proofreading						
Punctuation						
Capitalization						
Spelling						
Typing mechanics						
Word division						
Other:						
	Poor	Minimum	Average	Good	Superior	Comments

71

71A

Proofreading and Editing

Skill Definition

Proofreading and editing materials in word processing is the procedure of reading, correcting, and revising a document in order to produce a final copy.

The final input procedure of word processing is proofreading. After all the typing is finished, the secretary must make sure that the hard copy is correct in all aspects. Each document must be proofread word for word, figure for figure, and thought for thought.

After final proofreading of each document, the secretary should mentally ask, "Am I proud of it? Am I certain my employer will sign it?"

Objectives

1. The student will be able to explain the importance of accurate proofreading in word processing.
2. The student will be able to identify common errors found in copies.
3. The student will be able to demonstrate the methods of proofreading: paper bail method, comparing copy with the original, and copyholding.
4. The student will be able to proofread from a visual screen.
5. The student will be able to accurately proofread a short paragraph within two minutes.

Unique Application to Word Processing

In a recent survey of word processing centers in Virginia, proofreading was ranked first as the most improtant skill needed by correspondence secretaries.[1] Functional errors undetected can cause hundreds of form letters or similar job tasks to be produced inaccurately. Imagine the magnitude of paper waste and economic waste as a result of such an error!

A unique job title, Proofreader/Editor, exists in word processing. This person is responsible for final proofreading. Proofreading on some word processing equipment can be done via a video display, known as a scanner. A screen is built into a metal case which positions the screen above the keyboard. Typed lines are displayed for proofreading and editing.

The teacher should demonstrate the methods of proofreading applicable to word processing equipment, including the paper bail method, comparing the copy with its original, copyholding (proofreading by two students), proofreading using a visual display or screen, proofreading backwards letter by letter or word by word, and oral proofreading. Proofreading the copy from bottom to top and from right to left is an effective way to catch spelling errors, typographical errors, and incorrect word errors (word typed at the end of one line and repeated at the beginning of the next line). The extensive use of dictating machines in word processing requires an additional proofreading method —listening to the dictation. The teacher should instruct students to playback the dictation at a faster rate in order to check for errors while listening. Proofreading statistical material can be done by using an adding machine to verify totals.

In teaching proofreading, teachers need first to help their students understand where they are most likely to make errors, and the different kinds of errors that may be found in the copy. Errors in titles, columnar headings, and subheadings of tables and manuscripts are often overlooked completely because the student fails to proofread such material. Errors in which letters are added or omitted at the end of a word are overlooked if the addition or omission does not make the typed word meaningless. Failure to catch this type of error indicates that the copy is being read word by word rather than for meaning. Errors in the middle of a line may be missed because of the tendency to scan the copy. Errors in format may be missed because the student is only searching for typing errors and fails to check format closely.

The teacher should also emphasize that certain skills are essential to good proofreading. These skills include spelling, knowledge of punctuation rules, and knowledge of grammar.

Building the Skill

To be sure that a document contains no errors, the teacher should instruct students to proofread it three times. The student should read first for spelling, typographical errors, and repeated words. The second reading is for punctuation and grammar errors. The third reading is for meaning.

The teacher should design exercises to include various types of errors in situations which might be encountered in word processing. At the beginning, each proofreading exercise should include

[1] Marietta Spring, "Survey of Word Processing Centers in Urban Corridor of Virginia," dissertation, June, 1977.

only one type of error. The following are suggested exercises for building proofreading skills:

1. Develop a series of proofreading exercises beginning with simple typographical errors, and gradually increase in difficulty throughout the series. For example, a typical series of proofreading exercises might include:
   typographical errors
   transpositions and pile-ups
   incorrect word errors
   spelling errors
   style errors
   grammar errors
   thought errors
   all types of errors
   Examples of such exercises are included herein.
2. Prepared overlays for proofreading exercises would provide immediate feedback. A transparency can be made containing the exercise with all detected errors. This is placed over the students copy. The student can immediately discover the errors missed while proofreading.
3. Provide sufficient opportunities for students to develop this skill under controlled conditions. A teacher might allocate ten minutes for drill in proofreading techniques.
4. Return papers on which there are unmarked proofreading errors and hold students responsible for locating and correcting such errors.

Suggested Student Activities

1. Students discuss the importance of accurate proofreading and types of errors commonly found in copies.
2. Students are given a letter containing style errors (inside address, margins, style of letter, open or mixed punctuation, reference initials). The students should proofread the letter and retype it correctly.
3. Students are given a memorandum containing grammar errors (punctuation marks, verb usage). The students should proofread the letter and retype it correctly.
4. Students are given letters containing all types of errors. They should proofread the copy and retype the document for final use. Students can then exchange their papers and retype each other's documents.
5. Each student chooses a partner whose name is typed at the bottom of a letter. If after proofreading the letter is correct, the partner signs it. If an error is discovered, however, the letter is returned to the "secretary" to be retyped correctly.
6. Students type rough draft documents from a textbook. They should proofread using original copy, and then type document for final use.
7. For transfer purposes, students proofread exercises that are displayed on an overhead projector. An example of a suggested transparency is included herein.
8. Students are given timed proofreading exercises. Directions include circling all errors. The students then record the number of errors on a blank line provided at the end of each line of the paragraph. The students then record the time required to finish the exercise. An example of this type of exercise is included herein.

Evaluation

A formal test should be developed by the teacher to measure the stated objectives.

Glossary

Business Document—Typed or printed matter used as hard copy for secretarial support in a word processing system.

Correspondence Secretary—A machine-oriented typing specialist who transcribes from dictation equipment.

Hard Copy—A written, typed, or printed form in a word processing system that reaches a typing station.

Input—Information going into a system. The first cycle of word processing skills. It includes planning, determining priorities, and dictating skills.

Keyboarding—The process of operating a typewriter.

Originator—The creator of ideas for typewritten materials.

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EXAMPLES OF PROOFREADING EXERCISES

PROOFREADING FOR INCORRECT WORD ERRORS

Directions: Proofread this paragraph circling all incorrect word errors. Record the number of errors on each line on the ruled line.

We were pleased to learn that you have have excepted our invitation to attend our cite dedication. Members of our counciling department, as well as personal department, will also attend. _____

PROOFREADING FOR SPELLING ERRORS

Directions: Proofread this memorandum circling all spelling errors. Record the number of errors on each line on the ruled line.

MEMORANDUM

TO: Word Procesing Center _____
FORM: Personal Department _____
DATE: June 20, 1977 _____
SUBJECT: New Equipment _____

We shall be instaling new automatic typewriters on Monday, July 4. These mashines are expected to arive on Firday, July 1. _____
Please dont schelude vacation during that week. Every member of the staffe will be needed to ensure effecient transition to these mashines. _____

PROOFREADING FOR GRAMMAR ERRORS

Directions: Proofread this paragraph circling all grammar errors. Record the number of errors on each line on the ruled line.

A new rest facility have been opened in the Medical Department. Employers whom feel ill may lay down in this area until he is able to return to their work center. Dr. Smith asked Mrs. Ryan and I to attend the rest area. _____

EXAMPLE OF TIMED PROOFREADING EXERCISE

Directions: Compare carefully each line of the original handwritten paragraph which contains no errors with the corresponding line of the typed copy, which contains errors. Circle the errors and record the number of errors on the blank lines. You will have two minutes.

Original Paragraph

The concept of word processing originated in Germany by Ulrich Steinhilper, an office manager. He believed that all dictation could be directed to a central transcribing location. The use of automatic typewriters can produce error-free copies at a rate of 150 words per minute once the dictation is correctly keyboarded at rough-draft speed.

Typed Paragraph

The consept of word procesing originated
in Germany by Ulirch Steinhilper, a office
manager. He beleived that all dication could
be directed to a central trancribing location.
The use of automatical typewriters can produse
error - free copies at an rate of 105 words per
minute once the dictation is correctly key
baorded at rough-draft speeed..

_____
_____
_____
_____
_____
_____
_____
_____

TOTAL ERRORS _____

TOTAL TIME _____

PROOFREADING VIA OVERHEAD PROJECTOR

Directions: Proofread this letter as you view it on the screen. On a piece of paper, write all errors.

140 South Main St.
Roanoke, Va. 24012
July 4, 1977

Mrs. L. M. Smith
Word Processing Mgr.
ABC Corporation
111 Main Street
Roanoke, VA 24011

Dear Ms. Smith:

I would like to aply for a position in your word processing center. My advanced training includes typing, record-keeping, shorthand, business math, business english, and clerical office procedures. I have also had training on the IBM memory typewriter.

Enclosed please find a copy of my resume. If addition information is required, please dont hesitate to contact me.

After reviewing my resume, I hope we can arrange for an interview.

Sincerely yours

Mary Proofread

mf

Production Measurement

Skill Definition

Production measurement in word processing involves the calculation of the total amount or quality of usable copy that is produced by an operator. Production may be measured by the number of keystrokes, words, or lines produced. Production measurement is very important in word processing because a major justification for purchasing word processing equipment is that the machines should reduce the cost of producing typewritten work.

Objectives

1. The student will be able to explain how a word processing operator's salary can be determined according to production standards.
2. The student will be able to list special problems that can affect the length of time needed to produce work.
3. The student will be able to explain the effect errors have on the production rate.
4. The student will be able to list the three ways production can be measured.
5. The student will be able to explain the purpose of an electronic counter.
6. Given a Weekly Production Record, the students will be able to compute their own production rate.

Unique Application for Word Processing

Many organizations base the operator's salary on the amount of work produced rather than paying a regular monthly salary. Special problems can affect the measured time for performing the work and should be taken into consideration when determining the output of an operator. Special consideration should be given to such items as:

1. Nature, length, and format of the input
2. Equipment being used
3. Specific tasks which may distract the operator such as answering the telephone
4. Quality standards for output

In most word processing operations, errors and changes that an originator makes which cause a document to be retyped are not charged against the typist's time. The time that typists spend rectifying their own errors are charged against them.

Operators in some companies are required to keep a Weekly Production Record. These records generally include the number of keystrokes, words, or lines produced and the number of errors made during a specified period. When calculating the amount of pay, some companies subtract error penalties from the gross earnings.

To simplify the counting of keystrokes, some firms have installed electronic counters atop typing equipment. The counters simplify recordkeeping and provide an accurate record of the keystrokes produced.

Companies that do not base the operator's salary on the production rate offer work incentive plans to increase production. These plans offer such things as time off, extra breaks, extra pay, and gifts as incentives for increases in production.

Building the Skill

To build skill in production measurement, the teacher should provide an opportunity for students to actually determine the number of keystrokes, words, or lines typed for a specified period of time. For example, the following exercise could be used to illustrate how production is measured.

1. The teacher should show a transparency of a Weekly Production Record. The teacher should explain that all work that is typed or produced should be line counted. A daily record should be kept of the number of lines of tabulation, letters, reports, and rough drafts that are typed. To determine the total adjusted lines, the typist should multiply the total lines times the standard per item. The result will be the total adjusted lines. The teacher should explain that more weight is assigned to typing jobs that require more time to complete. A record is also kept of the total lines of typing that contain uncorrected errors. The total errors are subtracted from the total adjusted lines to get the production rate of the typist. The teacher should further explain that in many organizations the production rate is multiplied by a salary rate to determine the amount of gross pay.
2. Each student should be given a copy of a Weekly Production Record on which the student will record the total lines produced and the total lines containing errors.
3. Time should be allowed each day for students to compare their totals, and the student

with the highest production rate should be recognized.
4. At the end of the week, the student with the highest production rate should be recognized.
5. To make the project more realistic, the teacher could offer some type of incentive to the student who has the highest production rate each day and to the student with the highest weekly rate.

From this exercise, the student should be able to see that:

1. Some types of work require more time to complete than other kinds of work.
2. One is not able to produce the same amount of work each day.
3. The nature and quality of the input affect the production rate.
4. Errors are charged against the typist's time.
5. Efficient use of time and materials leads to a higher production rate.

Student Activities

The students will keep a record of all work they have produced in one week. They will complete a Weekly Production Record and will compute their daily and weekly production rate.

Evaluation

A formal test should be prepared by the teacher to evaluate the first five objectives. Students should also be evaluated on the accuracy of their Weekly Production Records.

Glossary

Incentive—A motivational device used to increase productivity.

Operator—A person that keyboards information into a word processing system.

Output—What is produced from a system, such as final copy.

Weekly Production Record—A record of the number of characters, words, or lines that an operator is able to produce in a specified period of time. Generally, an error penalty is subtracted to determine the actual production rate.

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WEEKLY PRODUCTION RECORD

Office _____ Employee Name _____

Department _____ Employee Number _____

Section _____ Week Ending _____

Work Record

	Tabulation	*Letters*	*Reports*	*Rough Drafts*
Mon.	_____	_____	_____	_____
Tues.	_____	_____	_____	_____
Wed.	_____	_____	_____	_____
Thurs.	_____	_____	_____	_____
Fri.	_____	_____	_____	_____
Sat.	_____	_____	_____	_____
Sun.	_____	_____	_____	_____
Total Line Count	_____	_____	_____	_____
Standard Per Item	1.5	.75	1	.5
Total Adjusted Lines	_____	_____	_____	_____

Number of Errors

	Mon.	*Tues.*	*Wed.*	*Thurs.*	*Fri.*	*Sat.*	*Sun.*	*Total Errors*
No. Lines Containing Errors	_____	_____	_____	_____	_____	_____	_____	_____

Total Adjusted Lines _____

− Total Errors _____

= Production Rate _____

DISTRIBUTION

Filing

Skill Definition

Filing for word processing includes procedures for the storage, retention, and retrieval of recorded information contained on magnetic media such as cassettes, tapes, and cards.

Since one of the justifications for modern-day word processing is the saving of time, it is very important that recorded information is stored, retained, and retrieved with speed and accuracy.

Objectives

1. Name reasons for establishing a filing system.
2. Explain how a library of recorded material is established.
3. Describe how to retrieve stored information.
4. Define terms related to filing in word processing.

Unique Application for Word Processing

There is probably no standardized procedure for establishing a word processing system since each unit usually designs a method unique to its needs. For example, an insurance company would formulate a filing system entirely different from a hospital. Also, the type of hardware the business is using would make a difference in the filing method employed.

Filing in word processing is unique also in that some of the filing media cannot be stored in traditional file folders. The tapes and cassettes are in a different area from the hard copy and need to be cross-indexed.

Building the Skill

In order to build the skill of filing for word processing, the students will need to know all the basic filing methods and rules so that they will be able to apply the best system for speed in the retrieval of records. Emphasis should be stressed in the importance of accuracy in finding the correct correspondence because the outcome could be disastrous if the wrong material was retrieved and mailed.

If mag cards are used, the hard copy may be stored with the media in a spiral notebook on the secretary's desk. A transparency may be shown of how this is done. The hard copy may have a variety of methods of being filed, but usually it will be by subject or frequecy of use. It could also be given a number and coded on a summary sheet if there is a volume of storage.

More than one person may be operating the system, therefore, some type of records system needs to be established. Since it is impossible to see the media stored on tapes or disks, a hard copy is used for the secretary to have for reference. This hard copy is coded at the top and cross-referenced to the corresponding tape. For example, the first number listed is the tape number, the second number refers to the section of the hard copy on that tape.

A library of recorded material is established by each department or work station. In small offices the correspondence secretary will usually know the media used frequently and this secretary formulates a system of filing for fast retrieval. If there are several departments or persons using the same system, the company may have a notebook of hard copy divided by departments. If tapes are used in the system, the hard copy is numerically coded at the top to indicate the tape number and the section on the tape pertaining to that correspondence. The tapes may also be coded by subject.

Sometimes the material is coded by using the secretary's reference initials followed by a number.

Some mag cards are filed in a desk-top box inside individual folders; whereas, tapes may be filed in cassette racks on or near the desk or in the desk drawers. Color is also used in some filing of different subjects or divisions.

An example of the retrieval of data in a word processing system follows:

> John Brown is delinquent in his account with X Insurance Company. The company wants to send him a letter reminding him of this. The correspondence secretary refers to the notebook containing the hard copies of form letter under 'D," finds the copy of the "Delinquent" letter, and sees a number at the top which reads "12-36." The number 12 refers to the tape and the number 36 to the search code for the needed letter. The secretary finds tape 12, which is stored numerically in a cassette tape rack. Then the search code is used

on the word processing equipment to locate the letter.

A vocabulary of terms for word processing should be used in everyday language in the classroom. Some of these may include:

cassette	mag cards
CRT	microfiche
diskette (floppies)	microfilm
hard copy	retrieval
indexing	storage media

Activities

If a transcriber is available, have students transcribe a belt and classify the letters by subjects, using the transcription copy as hard copy.

Have students take dictation for several days and code each letter by subject as transcribed. After coded, have the letters filed in alphabetical order by subject.

Evaluation

From the four objectives given, compose appropriate tests for evaluation. For example, define several terms and give examples.

Using letters given by the teacher, have students code them by subjects and place them in alphabetical order. Once the letters are alphabetized, a production timing is given on specific letters selected by the teacher.

Logging

Skill Definition

Logging is a means of recording incoming and outgoing work which aids in monitoring and controlling the flow of work. Logging is a very vital part of the distribution phase of word processing systems. In order to record the necessary information about each document, the correspondence secretary completes a daily log sheet. This document is prepared and maintained by supervisors or word processing operators to insure the accurate monitoring and controlling of incoming and outgoing work, turnaround times, and other activities involving the work flow.

Because of the quantity of information that is recorded and stored in a word processing system, either in the form of magnetic tape, paper tape, or magnetic cards, an efficient record keeping system is absolutely necessary. The logging of recorded documents will allow for efficient document storage and quick retrieval of recorded information on the daily log sheet.

Since many documents can be recorded on one magnetic tape, paper tape, or magnetic card, the correspondence secretary uses a method of locating and playing out a specific document without having to playout the entire recorded material. The mark code is recorded at the beginning of each tape and again at the end of each document, typewritten page, or at the end of a section of material. Mark codes can also be used to identify paragraphs, whole typewritten pages, or a single sentence, a single name or address, or a series of words.

The correspondence secretary logs each document on a daily log sheet. The log sheet identifies the tape or card number, the mark number, and an abberviated description of the document that has been assigned that particular mark code. Logging each recorded document, page, or section enables the correspondence secretary to locate a specific document, page, or section on the recorded medium and playout the material. The function of a word processing system in which specific material is located on the recorded medium is referred to as searching. By using the log sheet of recorded documents, the correspondence secretary is able to search for a mark code number on the recorded medium for example, and playout that document, page, or section.

Objective

1. (a) The student will be able to define the following terms: logging, a log sheet, and a mark code.
   (b) The student will be able to discuss the need for and function of the following: logging, a log sheet, and a mark code in a word processing system.
   (c) The student will be able to list the steps included in the logging of recorded material in a word processing system.
2. The student will be able to type a mark code by typing a lower case "c" and backspacing and typing a diagonal through the "c", for example, "¢." The student will type a nark code at the beginning and at the end of each

document transcribed at the typewriter from the machine transcription equipment.

3. Given a log sheet, the student will be able to accurately keep a log of all materials transcribed from the machine transcription equipment for a period of five days.

Unique Application for Word Processing

Because of the quantity of material that can be recorded and stored in a word processing system, there must be a way of locating specific documents, a method of recording the incoming and outgoing material, and a system of monitoring and controlling its flow. In a word processing system recorded documents are logged to accomplish this. The logging process enables the correspondence secretary to retrieve desired documents recorded during the business day rapidly and playout only specific documents, sections, or pages of the material.

The logging of recorded documents and the use of mark codes to locate and playout specific documents is essential in a word processing system. The student's ability to accurately keep a log of all recorded material and to search and playout a specific document using a mark code signal is a unique skill of word processing.

Building the Skill

In order to build the skills necessary for logging recorded material in a word processing system, the student will be introduced to the concept of logging and given hands-on experience of actually keeping a log of recorded material on machine transcription equipment. Many business teachers have the mistaken idea that expensive word processing equipment is needed to teach word processing skills. It would be advantageous for students to have the experience of keyboarding on an automatic typewriter, but this experience can be simulated with the use of an electric typewriter and machine transcription equipment. (Moody and Matthews, p. 45.) Listed below are some suggestions for introducing the concept of logging and practical application for this skill.

1. Conduct a lecture and class discussion covering the following points about the logging of recorded material: (a) definitions of logging, a log sheet, and a mark code; (b) the need for and function of logging recorded material in a word processing system; and (c) the necessary steps included in the logging of recorded material. In order to aid students in following the lecture, prepare and give each student a hand-out sheet containing student objectives for the lesson on logging and note taking guides including points to listen for during the lecture.
2. Using the overhead projector, show transparencies of different kinds of log sheets used by various companies. Emphasize at this point that different companies use different types of log sheets depending on the objectives of the company. Also emphasize what kind of information is recorded on the log sheet.
3. Since an electric typewriter cannot be programmed to record a mark code, which is used to locate a specific document on magnetic tape, paper tape, or magnetic card, simulate the recording of a mark code by having the student type a mark code using the lower case "c" and backspacing and typing a diagonal through the "c," for example, "¢." Have each student type this simulated mark code at the beginning and again at the end of each document that the student transcribes from the machine transcription equipment.
4. Have each student keep a daily log sheet of all material that is transcribed at the typewriter from recorded material on the machine transcription equipment. When the student is logging the typewritten documents, instruct the student to number the mark codes in consecutive order (for example, 01, 02, 03, 04). A daily log sheet will be kept for all material that each student transcribes for a period of five days.

Activity

The following suggested activity can be used to develop the student's ability to log recorded material. This activity can be done with the use of an electric or manual typewriter and machine transcription equipment.

1. Preceding the actual logging of recorded material, the student will participate in a class discussion based on a lecture on the logging of recorded material. From the participation in a class discussion, the student will have a better understanding of the concepts and terms used in the logging of recorded material and how this relates to a word processing system.
2. Since an electric typewriter cannot be programmed to record a mark code, the student will simulate this activity by typing the "¢"

notation as previously explained. The student will type this simulated mark code at the beginning and end of each document that the student transcribes from the recorded material on the machine transcription machine.

3. The student will keep a daily log sheet of all material that is transcribed at the typewriter from the machine transcription equipment. The daily log of all typed documents will be kept for a period of five days. When the student is logging the typewritten material on the log sheet, be sure that the mark codes are recorded in consecutive order.

Evaluation

The activities will be formally evaluated to determine the student's understanding of concepts and terms included in the logging of recorded material; whether or not the student is capable of accurately keeping a log sheet of all material transcribed for a period of five days.

1. Use an objective test to evaluate the student's ability to define specific terms, to discuss the need for and function of each of these terms, and to enumerate the steps included in the logging of recorded material.
2. Check the typed copy of the documents the student has transcribed from the recorded material to determine the student's ability to type a mark code at the beginning and end of each transcribed document.
3. Evaluate the daily log sheets maintained for five days to verify the ability of each student to keep a log sheet of all material that was transcribed from the recorded material.

LOGGING IN A WORD PROCESSING SYSTEM

Objectives:

At the end of this lesson the student will be able to:

1. Define the following terms: logging, log sheet, and a mark code.
2. Discuss the need for and function of logging, a log sheet, and a mark code in a word processing system.
3. List the steps involved in logging recorded material in a word processing system.
4. Type a mark code by typing a lower case "c" and backspacing and typing a diagonal through the "c," for example "¢." The mark codes will be typed at the beginning and again at the end of each document the student transcribes at the typewriter from recorded material on the machine transcription equipment.
5. Keep a daily log sheet of all material transcribed at the typewriter from the machine transcription equipment for a period of five days.

Note-Taking Guide:

Objective 1: Listen for the following points:

1. The definition of the following terms: logging, log sheet, and mark code.

Objective 2:

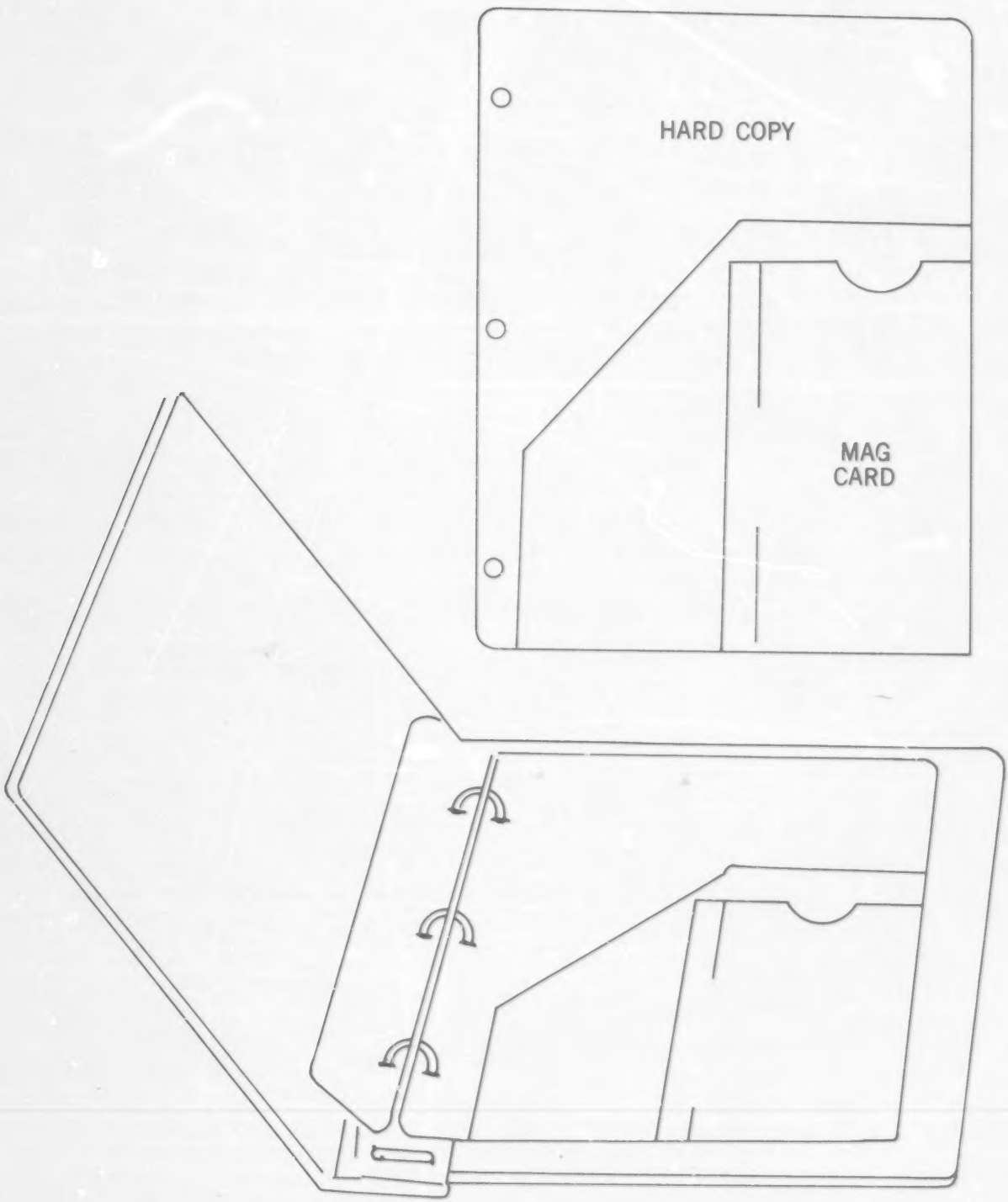
1. Why is logging needed in a word processing system?
2. What is the function of logging in a word processing system?
3. What is the document used to record the necessary information?
4. What information is recorded on this document? Why is this kept in a word processing system?
5. Why is a mark code used in a word processing system?
6. What is the function of the mark code?
7. When is a mark code recorded?

Objective 3:

1. What are the procedural steps involved in the logging of recorded material?

Objective 4:

1. If the word processing equipment is not available for classroom use, how can the recording of a mark code be simulated using an electric or manual typewriter and machine transcription equipment? Based on the answers to these questions, the student will be able to keep a log sheet of all recorded material transcribed from the machine transcription equipment.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MAG
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REDACTOR LOG SHEET

TAPE NUMBER

MARK NUMBER	ORIGINATOR	DEPARTMENT	DESCRIPTION	DATE COMPLETED

EDITING SECRETARY

Glossary

Distribution Phase—The distribution phase includes the logging and filing of completed documents.

Merging—The automatic bringing together of information on two tapes into one tape or onto a document.

Turnaround Time—Time elapsed between the initiation of a task and the completion of that task.

Word Processing Operator—A person who keyboards information in a word processing center.

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WORD PROCESSING CENTER
SOUTHWEST VIRGINIA COMMUNITY COLLEGE
BUSINESS DIVISION

Permanent Storage

Typewriter Number:

Storage Number	Dictator	Type of Work	Addressee	Date Typed	Transcriber's Name
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					

SOUTHWEST VIRGINIA COMMUNITY COLLEGE
BUSINESS DIVISION

WORD PROCESSING CENTER
ACTIVE FILE

WP-1
TYPEWRITER NO.

Storage No.	Dictator	Type of Work	Addressee	Date Typed	Transcriber's Name
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
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